AN EMPIRICAL EVALUATION OF A PRIMED-GOAL INTERVENTION ON CALL CENTER REPRESENTATIVES IN SOUTH AFRICA

by

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ABSTRACT

The labour force is considered the most valuable and indispensable resource of an organisation. Ensuring that employee's function efficiently and effectively is essential in obtaining an organisational competitive advantage and success. As performance is a core concept and key objective within Industrial-Organisational Psychology, the enhancement and optimisation of employee performance is achieved through the use of targeted interventions.

Within the service industry, high levels of absenteeism and turnover results in a lack of commitment and performance. Therefore, the Human Resource (HR) Function is committed to contribute to achieving the organisational goals through interventions that affect and promote employee performance (Nel et al., 2001). Research on Goal-setting Theory (GST), by Locke and Latham (1991), kindled the investigation of the effect of goal setting at a subconscious level. This was with the aim to determine the effect of subconscious goal setting (priming) on the level of performance (Bargh & Chartrand, 1999; Chartrand & Bargh, 2002).

This study, therefore, attempts to answer the question: is it possible to increase job performance outcomes of CCRs (number of quotes done; number of policies sold; total rand value sold) with a primed goal intervention?

This study consisted of a primed-goal intervention in a field experiment. Research indicates and supports goal priming, due to the subconscious taking up less cognitive space than the conscious, thereby increasing employee efficiency and allowing more capacity to be dedicated to performance (Stajkovic, Locke & Blair, 2006). This study investigated the effect of a general achievement prime on job performance of call-center representatives (CCRs). The CCRs were randomly assigned to one of two conditions, namely (i) general-achievement prime condition, or (ii) control grou*p*. The intervention comprised of a photograph of a woman winning a race. The photograph was clearly printed in the upper-left-hand quadrant on the script sheets of the CCRs. It was expected that the intervention will show a significant positive influence on employee performance. The results revealed no support for a statistically significant increase in the number of quotes done (hypothesis one), nor an increase in the number of policies sold (hypothesis two). However, in terms of the total rand value sold (hypothesis three), there was a trend in the data which suggested that some limited support for the effect of the primed-goal intervention on performance, could be concluded.

OPSOMMING

Die arbeidsmag word beskou as die waardevolste en onontbeerlikste bron in die lewering van effektiewe prestasie vir die organisasie se volgehoue sukses en kompeterende voordeel. Prestasie is 'n kern begrip in die Bedryfsielkunde veld, en word toegepas met doelgerigte metodes in organisasies vir die optimalisering van werknemerprestasies. Hoë vlakke van personeel afwesigheid lei egter tot omset prestasie hindernisse wat in voorbeeld toeskryfbaar is aan ‘n gebrek van volgehoue verbintenis binne die dienste-bedryf. Die Menslike Hulpbron Bestuur is ‘n belangrike rolspeler om by te dra tot die bereiking van die organisasiedoelwitte deur middel van opleiding en die implementering van doelwit prestasie gerigte strategieë wat werknemers positief beïnvloed en bevorder (Nel et al., 2001). Navorsing oor die doelwit stellings teorie, deur Locke en Latham (1991), het die ondersoek na die effek van doelwit stelling op 'n onderbewuste vlak gewek en gestimuleer met die doel om die effek van onderbewuste doelwitstellings (i.e. priming) op prestasievlakke te bepaal en bevorder (Bargh & Chartrand, 1999; Chartrand & Bargh, 2002).

Hierdie studie poog om die volgende vraag te beantwoord: is dit moontlik om werksprestasie van inbelsentrum verteenwoordigers te verhoog (bv. aantal kwotasies gedoen; aantal polisse verkoop; totale randwaarde van verkope) met 'n onderbewuste doelwit? Die studie behels die evalueering van die effek van ‘n onderbewuste doelwitstelling in ‘n veld eksperiment. Vorige navorsing dui aan dat die onderbewuste minder kognitiewe ruimte opneem, gemeet teenoor die bewustelike, om die doeltreffendheid in prestasie kapasiteit by werknemers te verhoog (Stajkovic, Locke & Blair, 2006).

Hierdie studie het ondersoek ingestel op die effek van 'n algemene, onderbewuste prestasie doelwitstelling by inbelsentrum verteenwoordigers. Die inbelsentrum verteenwoordigers is eweredig toegedeel aan een van twee groepe, naamlik (i) ‘n onderbewuste eksperimentele groep, en ‘n (ii) bestaande kontrolegroep. Die eksperimentele strategie het ‘n foto van 'n vrou wat die wedloop wen (i.e. algemene prestasie) in die boonste linkerkantste kwadrant op die skrifblad van die inbelsentrum verteenwoordigers ingebring. Die verwagting is gekoester dat die eksperimentele groep 'n beduidende positiewe invloed op die werksprestasie van inbelsentrum verteenwoordigers sal toon. Die resultate het egter geen ondersteuning vir ‘n beduidende toename in die aantal kwotasies wat gedoen is (hipotese een), en of toename in die aantal polisse wat verkoop is (hipotese twee) getoon nie, hoewel daar beperkte ondersteuning getoon is vir ‘n toename in die randwaarde van polisse wat verkoop is (hipotese drie).

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1.1 INTRODUCTION

1.1.1 The Importance of Employee Performance in Organisational Success

Organisations are man-made phenomena that are formed by people who are being managed for a specific reason to collectively pursue goals (Blau & Scott, 1962; Theron, 2011). In order for an organisation to achieve its objectives and gain a competitive advantage, its focus has to shift to performance (Campbell, McCloy, Oppler & Sager, 1993). The management of performance is a key responsibility of Human Resources (HR), which manages and operates the organisation (Grobler et al. 2012). Therefore, to enhance organisational success, the HR department has to be fully utilised to ensure employee performance.

The Human Resource Management (HRM) function within an organisation contributes to achieving organisational success by aiming to attract and retain a capable, driven, and fit workforce (Burma, 2014). The HRM function strives to achieve this through influencing the behaviour, attitudes, and performance of employees in order for them to achieve organisational goals (Noe, Hollenbeck, Gerhart & Wright, 2010). The success of an organisation is mainly dependent on the performance of its employees.

Employee performance comprises of the actions they take, the tasks they perform, and the behaviours they control in order to contribute to the organisational goals (Borman & Motowidlo, 1993; Campbell et al. 1993; Rotundo & Sackett, 2002). Employees are the executors of labour, therefore often being considered the most valuable and indispensable resource of an organisation (Nel, Gerber, van Dyk, Haasbroek, Schultz, Sono et al. 2001). Consequently, obtaining an organisational competitive advantage, and success, is ultimately determined by the quality and effectiveness of the organisation's employees (De Goede & Theron, 2010).

Human capital is an organisation's most dynamic and essential resource which directly affects an organisation's performance. Having good quality employees that are capable and committed, facilitates knowledge creation to take place, leading to continuous improvement. The process of knowledge creation contributes to the competitive advantage of organisations. Employees who are willing and engaged in the process of knowledge creation will ultimately perform better, thereby successfully attaining personal as well as organisational goals.

Organisations can effectively and efficiently utilise their workforce by providing an environment conducive to high employee work performance (Hackett, 1985).

Performance remains a core concept within Industrial-Organisational Psychology. The enhancement and optimisation of employee performance is a central theme and essential indicator in measuring organisational performance. Although many definitions exist regarding performance, it is considered to be a multi-dimensional construct (Sonnentag & Frese, 2001). According to Campbell (1991, *p.* 704):

> "Performance is behaviour. It is something that people do, and it is reflected in the actions that people take. Further, it includes only those actions or behaviours relevant to the organisation's goals. The choice of goals is a value judgement on the part of those empowered to make such judgements. Performance is not the consequence(s) or result(s) of actions; it is the action itself."

Likewise, Hunt (1996, *p.* 52) states that job performance is the "actions or behaviours relevant to the organisation's goals." Similarly, Hunt (1996), Campbell (1991) and Bartram (2005) refers to performance in terms of its behavioural aspect but also highlights that organisations hire employees to execute activities in a sound manner in order to achieve the desired outcomes, as performance is the action itself.

> "Performance is something that people actually do and can be observed. By definition, it includes only those actions or behaviours that are relevant to the organisation's goals and that can be scaled (measured) in terms of each person's proficiency. Performance is what the organisation hires one to do, and do well. Performance is not the consequence or result of the action, it is the action itself. Performance consists of goal-relevant actions that are under the control of the individual, regardless of whether they are cognitive, motor, psychomotor, or interpersonal" (Bartram, 2005, *p.* 1186).

Research has stated that in order to conceptualise performance, on an elementary level, one has to distinguish between two aspects namely, behaviour and outcome (Borman & Motowildo, 1993; Campbell et al. 1993). Campbell (1990) clearly distinguishes between these two aspects, and indicates that they are empirically related, but that they do not overlap completely as they are affected by different factors. The outcome aspect refers to the result of an employee's behaviour; whereas the behavioural aspect refers to the actions employees display to accomplish a job (i.e. the action itself), which is also known as job (employee) performance. However, only behaviour that is relevant to the organisational goals are considered to form part of the performance concept (Campbell et al. 1993, *p.*40; Diaz-Vilela et al. 2015). Therefore, it is essential to interpret performance as a construct encompassing more than one domain in order to fully conceptualise performance. Thus, the behavioural aspect of performance is

ultimately the degree to which employees help organisations to achieve their goals (Campbell et al. 1993).

Extensive research has recently indicated that job performance consists of two broad dimensions, namely task performance[1] and citizenship performance (Borman & Motowidlo, 1997; Campbell et al. 1993). Task performance is multi-dimensional and refers to an individual's ability with which they perform activities that contribute to the organisation's technical core (Borman & Motowildo, 1993). The technical core consists of activities that are either (i) directly related through transforming resources into products and services produced by the organisation or (ii) indirectly by meeting the technical core requirements through service and maintenance (Motowidlo & Van Scotter, 1994). A strong predictor of task performance is cognitive ability (i.e. knowledge, skills, and abilities). Campbell (1990) proposes that task performance consists of five factors, namely: (i) job-specific task proficiency; (ii) non-job-specific task proficiency; (iii) written and oral communication proficiency; (iv) supervision; and (v) management/administration. In an organisational context, task performance is viewed as the contractual agreement between the employer and employee to achieve assigned jobs. These jobs are role-prescribed and are usually included in formal job descriptions.

Various activities are not accounted for in task performance, such as citizenship performance, yet they have a substantial impact on the effectiveness of organisations (Poropat, 2002). Citizenship performance consists of behaviour that indirectly contributes to organisational performance. These behaviours, for example, include: (i) volunteering to execute task activities that are not formally included in one's job description, (ii) helping and co-operating with others, and (iii) continuing to display determination when necessary in order to complete task activities successfully (Borman & Motowidlo, 1993, *p.* 73). Organisational Citizenship Behaviour (OCB) thus refers to behaviours that promotes smooth functioning within an organisation, consisting of five dimensions: altruism, conscientiousness, sportsmanship, civic virtue and courtesy (Organ, 1988; 1997). Consequently, such behaviour supports the organisational, social, and psychological environment, which ultimately promotes the technical core and relevant processes to operate. Citizenship performance differs from task performance as it requires one to go beyond what is formally required. Borman and Motowidlo (1993) believes that citizenship performance is essential and could contribute significantly to both

[1] This research empirically tested the effect of a primed goal intervention on task performance of CCRs. Even though the other elements of performance are important within the work environment, the nature of this intervention required the measurement of only the outcomes of task performance in this research study.

individual and organisational performance when introduced as a performance component within the organisation.

Campbell et al.'s (1993) taxonomy of work performance, consisting of task- and citizenship performance, has recently emerged to include adaptive performance. Adaptive performance is viewed as an independent dimension which may overlap with task- and citizenship performance (Johnson, 2001). Adaptive performance can be defined as "an individual's ability to adapt and provide necessary support to the job profile in a dynamic work situation" (Hesketh & Neal, 1999, p 21-55). Adaptive performance has emerged as a performance dimension due to the fact that employees are increasingly challenged to become more flexible in order to deal with the rapid changing nature of the work environment, such as technological advancements, changes in job activities, or restructuring of organisations (Pulakos, Arad, Donovan & Plamondon, 2000). Adaptive performance consists of two interrelated forms, namely reactive adaption, and proactive adaption. The former deals with prescribed demands and the latter deals with changes brought about by an individual (Berg, Wrzesniewski & Dutton, 2010; Ployhart & Bliese, 2006). Adaptive performance embodies the notion that the employees have the ability to change their behaviour when they recognise that their current behaviour is ineffective.

In order for employees to display improving performance, the presence of task-, citizenship-, and adaptive performance is critical. This is due to the fact that organisations are measured based on their outcomes, which reflects performance (Thomas & Mario, 2004).

Viswesvaran and Ones (2000) explain that various HR functions are based on the construct of performance. For instance, (i) selection is based on the process of identifying individuals who are likely to perform better on the job, compared to those who are not selected; (ii) training and development within an organisation is aimed at improving job performance; (iii) assessments and interventions take place to determine which individual strengths to utilise in order to empower the individual and for the organisation to perform optimally; and (iv) performance appraisals and pay systems are based on performance information. Thus, HR and organisations are continuously exploring avenues to remain competitive and adapt to the ever-changing environment. Organisations are relying on employees more than ever to achieve organisational objectives due to limited resources, thus organisations seek employees who are adaptable, proactive, take initiative, and show commitment to high quality performance (Pradhan & Jena, 2017; Sonnentag & Frese, 2002; Van Scotter, 2000). According to Hunter and Hunter (1984), the ability of the employee to perform the task is vital to achieve performance. Due to a variety

of factors influencing employee performance, devoting resources and capital to employee performance makes a critical difference to the performance of the organisation as a whole, by increasing competitiveness, obtaining a better market position, increased profitability, reduced turnover and ultimately success (Armstrong, 2010). According to Otley (1999), an organisation that is performing well is an organisation that is successfully achieving its goals.

1.1.2 Employee Performance Within the Call Center Industry

In the last few decades, the service industry readily expanded with the establishment of call centers due to organisations demanding customer-centerd services (Knight, 2004; Nel & De Villiers, 2004; Williams, 2000). This expansion enabled organisations to assist clients in an immediate, interactive, and cost-effective way (Nash, 1994). In the past decade, there has been a rapid growth in the number of call centers (Görgens-Ekermans & Kotzé, 2020). According to Dhanpat et al. (2018, as cited in Görgens-Ekermans & Kotzé, 2020), approximately 100 000 call center jobs were created in South Africa in 2015. Thus, call centers play a vital strategic role within organisations to facilitate success within a competitive industry (Ma, Kim & Rothrok, 2011; Nel & de Villiers, 2004). However, due to the high stress work environment, call centers frequently experience high turnover and absenteeism rates (Pierre & Tremblay, as cited in Görgens-Ekermans & Kotzé, 2020). Research has shown that 31.51 percent of South African CCRs indicated an intention to leave the service industry. Moreover, 48.7 percent of CCRs indicated an intention of seeking alternative jobs (Kgomo & Swart, 2010 as cited in Görgens-Ekermans & Kotzé, 2020).

A call center can be defined as, “a work environment in which the main business is mediated by a computer and telephone-based technologies that enable the efficient distribution of incoming calls (allocation of outgoing calls) to available staff, and permit the customer-employee interaction to occur simultaneously with the use of display screen equipment and the instant access to, and inputting of, information” (Holman, 2005, *p.* 111).

Call centers have been labelled the “coal mines of the 21st century” (Armistead, Kiely, Hole & Prescott, 2002, *p.* 246). This is due to the high-demand environment within which employees operate on a daily basis consisting of long working hours, varying schedules and unique job demands. These conditions are associated with high levels of stress, turnover and emotional burnout (Rameshbabu, Reddy & Fleming, 2013). The job of Call Center Representatives (CCRs) is characterised by routine tasks (i.e. scripted work) and low levels of control. A consequence of the fairly low-skilled work environment of call centers are low levels of job

satisfaction (Janse van Rensburg, Boonzaier & Boonzaier, 2013,). Furthermore, CCRs work in noisy work environments under high time pressures, with their performance usually being supervised (Ferreira & Saldiva, 2002).

Research has indicated that many call centers are confronted with high levels of absenteeism and turnover as a result of high workload and stress (Carrim, Basson & Coetzee, 2006; Choi, Cheong & Feinberg, 2012; Chu et al. 2012; Hauptfleisch & Uys, 2006). This is as a result of the high degree of repetitiveness within the job content which has to occur within a specified timeframe. Additionally, this situation is intensified by the general lack of available opportunities, such as promotions. The fairly low-skilled nature of this work has also been found to be related with low levels of job satisfaction (Armistead et al., 2002; Rose & Wright, 2005). Consequently, CCRs have been found to display a lack of organisational commitment - specifically affective commitment - resulting in high absenteeism and turnover (Goodwin et al. 2011; Somers, 1995; Van Scotter, 2000). Affective commitment refers to the employee's emotional attachment to, identification with, and involvement in an organisation (Simons & Buitendach, 2013; Somers, 1995). Emotional labour is imperative for high levels of service. With CCRs being emotional labourers, negative effects such as increased stressed and absenteeism occur, which directly impacts the ability of CCRs to perform effectively. Thus, a lack of organisational commitment results in lower productivity, increased absenteeism which ultimately affects the performance of CCRs negatively (Goodwin et al. 2011; Görgens-Ekermans & Kotzé, 2020; Tracy, 2005).

Furthermore, the service industry demands a high degree of personal contact and emotional labour when dealing with customers (Goodwin et al. 2011; Townsend, 2007). The employer expects employees to adhere to certain display rules and standards of an organisation, in order to portray a positive image to the public (Goodwin et al. 2011). Call Center Representatives are expected to look and sound friendly, and should be pleased to provide their service, regardless of their emotional well-being (Goodwin et al. 2011; Holman, 2002; Townsend, 2007). This is due to the impact CCRs have on customer's reactions. Thus, CCRs operate as emotional labourers[2] within the work environment which has shown to be associated with various negative psychosocial effects, which over the long term will influence performance negatively (Goodwin et al. 2011; Tracy, 2005).

[2] Emotional labour refers to the situation where employees are required to regulate their emotions when interacting with customers in order to meet organisational emotional display rules (Goodwin et al. 2011).

In order to improve performance of CCRs and gain a competitive advantage, Burma (2014) has argued that the focus in call centers needs to shift to human talent management and the consequential people practices. Call centers need to invest in interventions to attract and also retain the right human capital. Having a competent workforce who provides good service results in a competitive advantage for the organisation (Burma, 2014). In order to achieve this within a call center, the performance of employees is critical. Thus, the HRM function should be committed to contribute to achieving the organisational goals through interventions that affect and promote employee performance (Nel et al. 2001).

1.1.3 Goal Setting as an Avenue to Achieve Higher Performance

Goal setting has been found to have a direct, positive effect on the performance of employees (Locke & Latham, 1990). The Goal-setting Theory (GST) by Locke and Latham (1991) states that a specific challenging goal consistently leads to higher performance than urging people to do their best (i.e. a vague goal), given that goal commitment, sufficient task knowledge and feedback is present. A goal, as defined by Locke and Latham (2002, *p.* 705), is the "object or aim of an action, for example, to attain a specific standard of proficiency, usually within a specified time limit." Goals have been found to be very effective even when it originates from various sources. Goals can, for example, be set jointly, allocated by others, or be set by oneself. Goals are vital in achieving high performance as they increase tenacity, direct individual's attention, and stimulate efforts (Locke & Latham, 2002). Goal setting is no easy task, but it is essential for organisational success.

In the beginning of the 1990's, social psychologists started investigating the effect of goal setting at a subconscious level. According to Bargh and Chartrand (1999), the fundamental assumption of this research was that when goals are subconsciously activated, they affect outcomes. This stream of research aimed to determine the effect of subconscious goal setting on performance (Chartrand & Bargh, 2002). Therefore, goal priming was investigated. Priming is the momentary subconscious activation of a behaviour, which affects an individual's behaviour without them being aware that the goal exists (Bargh & Chartrand, 1997; Bargh, 1994, 2005). This has been supported by the automaticity model[3], which states that goals can be primed subconsciously (Bargh & Chartrand, 1999; Latham, 2016).

[3] The Automaticity Model (AM) states that a prime is an external cue in the environment which activates a mental representation stored in the memory, which in turn automatically leads to the pursuit of goals without the conscious awareness of a person (i.e. subconsciously) (Latham, 2016).

Research (e.g. Stajkovic, Locke & Blair, 2006) supports the effect of goal priming, due to the subconscious taking up less cognitive space, thereby increasing employee efficiency and allowing more capacity to be dedicated to performance. Primed goals have displayed motivational effects, similar to consciously set goals, in terms of performance as both types of goals impact choice, effort, and persistence (Bargh, Gollwitzer, Lee-Chai, Barndollar & Tröetschel, 2001). Miner (2008) argued subconscious goals must be scientifically studied in order to understand human behaviour.

Locke and Latham (2004) recommended studying subconscious motivation and its relation to conscious motivation (i.e. goals) in order to examine the effect on performance. Consequently, five consecutive primed-goal intervention studies were conducted (Chen & Latham, 2014; Latham & Piccolo, 2012; Shantz & Latham, 2009; Shantz & Latham 2011; Stajkovic et al. 2006). Stajkovic et al. (2006) conducted the first two laboratory experiments (n = 76, n = 96) of subconscious goal motivation on organisational related behaviour. The findings of these studies indicated a significant effect of subconscious goal motivation on performance and an interaction between subconscious and conscious goals.

In order to gain an increased understanding of the effect of priming interventions on employee performance and work-related tasks, Shantz and Latham (2009, 2011) conducted three consecutive studies to examine the effect of conscious- and primed goals on performance, and to determine the reliability of the results obtained. The studies were conducted using CCRs (study 1: n = 81, study 2: n = 20, study 3: n = 44), by presenting a general achievement prime (i.e. a photograph of a woman winning a race). Based on the results of these studies, it was concluded that consistent empirical evidence exists that job performance of CCRs can be increased by priming a performance goal. Subsequently, Latham and Piccolo (2012) conducted another experiment on CCRs (n = 58) to examine the effect of a general achievement prime (i.e. a picture of a woman winning a race) versus a context-specific prime on the job performance of the CCRs (i.e. a photograph of people performing the same work as the employees in the experiment). The findings (discussed in more detail further on in the thesis) indicated, amongst others, that a context-specific prime leads to a significant increase in job performance relative to the non-specific (general achievement) prime.

1.2 RESEARCH INITIATING QUESTION

Call centers are being confronted with numerous challenges such as poor work environments that foster declining job performance levels, resulting in high turnover (Tuten & Neidermeyer,

2004). Given the current research evidence of the effect of the subconscious process of goal priming on job performance, this research will seek to replicate previous studies in this domain, within the South African context, by examining the effect of a subconscious prime on job performance of CCRs. Therefore, the research initiating question is:

Is it possible to significantly increase job performance outcomes of CCRs with a primed goal intervention?

1.2.1 Research Aim and Objectives

This research will aim to empirically test the effect of a primed goal intervention on job performance through a controlled field experimental research design, executed on a group of CCRs working in an outbound call center at an organisation in Gauteng, South Africa. The objectives of the study are to:

a) develop a controlled field experiment to test the influence of a primed-goal intervention on job performance outcomes, and thereby replicate previous research in this regard, and to
b) empirically evaluate the intervention.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The foundation of this literature review is based on existing relevant research studies relating to the effect of primed goals on job performance. Studies on primed goal interventions aimed at increasing job performance will be reviewed. Thus, interventions that have been used in previous studies will be examined in terms of its content, methodology and the degree of positive outcomes in relation to job performance. This chapter, therefore, presents the development of the theoretical framework and the hypotheses for this study.

2.2 Goal Setting Theory

The GST, developed by Locke and Latham (1990, 2002) has been recognised to be one of the most valid and practical motivational theories of organisational behaviour (Miner, 1984; Mitchell & Daniels, 2003; Pinder, 1998). The theory defines a goal as, "the objective or aim of an action, for example, to attain a specific standard of proficiency, usually within a specified time limit" (Locke & Latham, 2002, *p.* 705). The theory explicitly specifies the relationship between goal setting and performance. Empirical findings have demonstrated that setting a specific, challenging goal consistently results in higher performance compared to an easy goal, a do-your-best, or a no goal strategy (Chen & Latham, 2014). Moreover, four moderators of the goal-performance relationship (ability, goal commitment, feedback, and resources), and four mediators (choice, effort, persistence, and strategy) were identified in the process of developing this theory[4].

However, early on a study conducted by Kanfer and Ackerman (1989), highlighted a challenge related to the effectiveness of the GST. That is, the results of the Kanfer and Ackerman (1989) study[5] indicated that when individuals lacked the knowledge or skills needed to perform a task effectively, encouraging them to set highly specified goals compared to "do your best", in order to achieve the objective, actually led to a decline in performance. Thus, it was concluded that when individuals are in the process of acquiring knowledge, cognitive resources firstly needs to be assigned to mastering the learning process, instead of aiming to achieve the performance level, in order for performance to increase and become automated. As a result, Winters and

[4] These mediators and moderators refer to the goal setting – performance relationship. Given the nature of this research (i.e. controlled experimental research design), it was not practically possible to factor the effect of one or more of these moderators/mediators into the primed-goal-performance relationship in this research study.
[5] The study utilised complex tasks by employing an air traffic control simulation.

Latham (1996) differentiated between learning goals and performance goals. The former is process-focused and specifies procedures to facilitate the accomplishment of a task. The latter is outcome-focused and specifies a level of performance which an individual should attain. The goal content of both a learning goal and a performance goal is specific and difficult, however, they differentiate in terms of the goal content.

2.3 Automaticity Model

Locke and Latham's (1990, 2002) GST is based upon conscious goal setting. The GST states that, "conscious goals are the immediate regulators of individual behaviour because a person's choice of a goal focuses attention toward goal-relevant activities and away from goal-irrelevant activities" (Shantz & Latham, 2011, *p.* 289). However, consciously setting goals consumes a large amount of cognitive resources. Due to human beings possessing a limited amount of cognitive resources, implications relating to performance arise (Locke & Latham, 2004).

Bargh and Chartrand (1999, *p.* 463) explain that conscious thoughts are, "mental acts of which we are aware, that we intend, that require effort, and that we can control." In contrast to conscious goal setting, the automaticity model states that mental representations can be activated subconsciously (Bargh & Chartrand, 1999; Huang & Bargh, 2014). Although, automatic processes "do not possess all of the defining features of a conscious process" (Bargh & Chartrand, 1999, *p.* 463). Therefore, due to the limitations inherent in conscious goal setting, social psychologists integrated the automaticity model and GST in order to investigate the effect of goal setting at a subconscious level (Bargh & Chartrand, 1999, 2000; Huang & Bargh, 2014; Latham & Locke, 2012; Latham et al., 2010; Locke and Latham, 2006;). To this end the findings by Chen et al., (2020, *p.* 20) indicated that, "(1) GST provides a theoretical framework for testing the automaticity model; and (2) the automaticity model fills the void in GST regarding goals in the subconscious". The subconscious is a vast storehouse of knowledge and values that exist beyond what is found in the conscious at any given point in time (Latham & Locke, 2007; Locke & Latham, 2002, 2005).

To this end, the automaticity model states that mental representations (i.e. goals) can be activated subconsciously, and that the pursuit of the goal can occur outside of the individual's awareness (Bargh, 1994; Bargh & Chartrand, 1997, 1999; Huang & Bargh, 2014). Hence, goals do not have to remain within the conscious mind to influence behaviour. This line of research suggests that goals can be activated by environmental cues, and as a result they affect subsequent behaviour. This process refers to goal priming.

2.4 Primed Goals

Goal priming, according to Bargh and Chartrand (1997, *p.* 284), is defined as the "temporary non-conscious activation of a goal by external cues, affecting the individual's behaviour and processing of information". Thus, even though the individual is unaware of the existing goal, a passive effect is exerted on the individual's behaviour. This runs parallel to the Theory of Implementation Intentions (Gollwitzer's, 1999). A key assumption underlying this theory is that, "a mental link is created unconsciously between a specific future situation and the intended goal response. An individual thus becomes committed to goal-directed behaviour once an appropriate setting for doing so is encountered" (Gollwitzer's, 1999, *p.* 495) (i.e. "If I am in this situation, then I will …"). Latham et al. (2010, *p.* 250) explain that, "an implementation intention specifies when, where, and how behaviour is likely to lead to goal attainment once an appropriate situation is encountered". A central tenant of this theory is that this process occurs automatically without conscious effort being exerted. Furthermore, the theory states that only an individual's subsequent behaviour is affected as it pre-exists as a desired state of mind that is accompanied with positive effects (Custers & Aarts, 2007; Shantz, & Latham, 2011). Hence, once the cues are activated, a person's behaviour toward attaining a goal is driven by motivation (Latham et al. 2010).

Furthermore, the Theory of Automaticity by Bargh and Chartrand (1999) states that, "conscious goals tend to become habituative through repeated choice of the goal in specific situations" (Latham et al. 2010, *p.* 240). This occurs when individuals choose the same goal in specific situations, thus it is no longer a conscious choice but is rather replaced by "automaticity". Chartrand, Dalton and Cheng (as cited in Latham et al. 2010, *p.* 240), however believe that "environmental features can trigger automatic goal activation which then directly affects goal-directed behaviour without the individual being aware of the process". For example, it has been argued that when a primed goal (e.g. general-achievement prime or context-specific prime) occurs in a given setting (e.g. call center) it becomes associated with a similar setting. It then follows that the individual pursues the goal (prime) without consciously being aware of it, as goals develop an automatic association and activation with features of the environment in which they have continuously been pursued (Bargh et al. 2001). For example, if a prime is associated with a given context (i.e., call center environment), then it may not be the presentation of the prime that influences job performance but rather the re-activation of the goal when CCRs re-enter into the same context each day (Chen et al. 2020). Therefore, as a

result of the subconscious identification of a setting, the environment is likely to activate a goal[6].

Likewise, Latham, Stajkovic and Locke (2010) have argued that the subconscious process occurs when an individual is unaware of both their goals and the effect of environmental features. Thus, the subconscious process is triggered by environmental features (persons, objects, situations) and occurs automatically without intention, guidance, or awareness (Aarts & Dijksterhuis, 2003; Bargh, 1990; Chartrand & Bargh, 2002). As a result, once the goal has been subconsciously activated, plans and strategies for goal achievement are automatically pursued without the individual being consciously aware of it (Bargh, Gollwitzer, Lee-Chai, Barndollar & Trötschei, 2001; Gollwitzer & Bargh, 1996). Subconscious goals are therefore manipulated through a technique called priming. As Chartrand and Bargh (2002, *p.* 15) stated, "once activated, the [subconscious or primed] goals [will] operate [like] consciously held goals do, all without the individual's awareness of the goal's guiding role."

Goals can subconsciously be activated through either a subliminal (by below-threshold stimuli) or supraliminal (in disguised form) priming technique. The former is concerned with presenting a stimulus rapidly, in order for it to not be consciously perceived, to assist in measuring the effect of the stimulus on behaviour. The latter aims to expose individuals to messages (i.e. photographs, words) in a manner where the relationship to the key task is not eagerly obvious (Latham et al. 2010). Based on a review of the relevant research, it would seem that the majority of the research conducted on subconscious goal setting has used the technique of supraliminal priming. However, the same quality of priming effects is obtained for both techniques (Bargh, 2016; Latham et al. 2010). This is only true as long as the person is not aware of the influence of the primes, because the awareness of the priming stimuli does not matter, but the awareness of the [potential] influence does (Bargh, 2016; Shantz, & Latham, 2011). This refers to the carry over priming effect from one task to the next, which Bargh (2016, *p.* 250) explains as, "the participant is explicitly unaware of the influence (and often unable to explicitly remember the primes themselves), but showing implicit effects of the primes of later tasks."

The subconscious has been found to have significant motivational effects on job performance, similarly to that of a conscious goal, as both exert an influence in terms of choice, effort and persistence (Bargh et al. 2001). Stajkovic et al. (2006) found that both conscious and subconscious goals exert an additive effect on performance (Shantz & Latham, 2009). Chen et

[6] Within this line of reasoning, the environment includes situations, objects, and persons encountered.

al. (2020, *p.* 20) support the former stating that, "goals that were primed and goals that were consciously set, consistent with the automaticity model were found to have similar effects on organisational behaviour." As noted, a conscious goal consumes cognitive resources which are limited, therefore utilising the subconscious can be advantageous to both the employee and employer (Kanfer & Ackerman, 1989; Shantz & Latham, 2011). Therefore, the use of both conscious and subconscious set goals would exert a greater influence than either one alone (Shantz & Latham, 2009; Chen et al. 2020).

2.4.1 Supraliminal priming techniques

Chartrand and Bargh (1996) conducted two experiments to test the hypothesis that subconscious goal activation produced the same output as consciously pursuing the same goals. In experiment one, participants were not given explicit task instructions and were randomly assigned in two groups pertaining to different goals (e.g. impression formation and memorisation). This was achieved by using the *Scrambled Sentence Test* priming technique where participants had to construct grammatically correct sentences out of sets of five words presented in a scrambled order (Bargh et al. 2001). Hence, participants were either exposed to words relating to impression formation and judgement, or words related to memorisation. Findings indicated that participants in the impression formation group displayed significantly higher recall and gathering of behaviour in memory compared to participants in the memorisation grou*p.*

In experiment two, Chartrand and Bargh (1996) conducted a replication of a standard person memory paradigm, wherein a series of behaviours are either consistent or inconsistent with a given personality trait (e.g. honesty). Similarly, to experiment one, participants were assigned into one of two groups (e.g. impression formation or control group). Participants in the impression formation group were subliminally primed with words relating to impression formation, whereas participants in the control group were subliminally exposed to words which were unrelated to impression formation. Participants were not explicitly instructed to form an impression of the target person. Findings indicated that participants in the impression formation group, who had been subliminally primed with related words, formed impressions of the target person's behaviour immediately rather than later (Chartrand & Bargh, 1996; Bargh et al. 2001). Bargh (1990) anticipated that goals can be activated outside of one's awareness (i.e. consciousness), thus operating subconsciously, to effectively guide goal-relevant behaviour and attain desired outcomes. To provide direct empirical support for the experiments conducted

by Chartrand and Bargh (1996), Bargh et al. (2001) conducted five consecutive experiments to examine the subconscious activation and operation of goals. The first experiment (n = 78), participants were randomly assigned to either a performing-well goal or a neutral priming condition (i.e., control group). The experiment consisted of constructing three word-search puzzles. Each puzzle pertained to a different theme (foods, bugs, and colours), containing 10 hidden words in a 10 x 10 matrix. Below the matrix was a list of 13 embedded words. All participants obtained the same instructions and situational pressures and had 10 minutes to complete the task. All participants were instructed to find as many words as possible. In the performing-well goal priming condition, the following words were included: *win, compete, succeed, strive, attain, achieve, and* master (Bargh et al. 2001). Findings indicated that participants in the performing-well goal priming condition displayed better performance on the task compared to participants in the neutral priming condition. Thus, the experiment provided support that performance goals can become activated subconsciously, which in turn regulates goal-relevant behaviour.

In experiment two, Bargh et al. (2001, *p.* 1016), "experimentally manipulated both whether the participant had (or did not have) the conscious goal to behave cooperatively and whether this goal was induced subconsciously (i.e. primed)". Thus, participants engaged in a resource-dilemma task whereby they had to fish from a lake with a limited number of fishes. Participants played against one another, facing the dilemma of either competing against and maximising profits (i.e. participants would keep most, or all, of the fish caught), or cooperating (i.e. returning the fish in the lake) with their opponent. Consequently, half of the participants were provided with explicit instructions to cooperate, and the remaining participants were not provided with explicit instructions. Following a 2 (prime: none vs cooperation) x 2 (conscious goal: none vs cooperation) factorial design[7], results indicated a greater cooperation between participants in the explicit conscious goals grou*p.* Moreover, results supported the hypothesis that subconscious-goal activation can occur outside of one's consciousness.

The third experiment was designed to address two potential alternative explanations for the previous experiments' findings. Bargh et al. (2001) state that the first experiment's effect was due to goal activation, however, the goal was consciously selected. The second experiment's findings illustrated that the effect was nonconscious but argued that it is not goal driven (i.e. it

[7] The priming task required of participants to decide how many fish to keep for personal profit and how many fish to return to the lake to help restock it. Decisions were made based on a table supplied to the participant, indicating the consequences of keeping fish versus replenishing the lake. The conscious-cooperation-goal conditions constantly required participants to cooperate in observing and maintaining a certain limit of fish in the lake.

was not a motivational or goal effect, instead a behaviour prime to work hard). Therefore, Bargh et al. (2001, *p.* 1019) further argued that, "the priming manipulations used in Experiments 1 and 2 to activate goals are very similar to those that have been used to prime social perceptual constructs, such as honesty, kindness, and shyness, in impression-formation research". Hence, Bargh et al. (2001) set out to demonstrate that goal-prime manipulation results in effects which are not mediated by perceptual priming. In order to demonstrate the former, a process of dissociation paradigms was used, stating that "the effects of the same priming manipulation should decrease over time for a social-perceptual (impression formation) dependent variable, but they should increase over time for a dependent variable reflecting goal-directed action tendencies" (Bargh et al. 2001, *p.* 1020). Following a 2 (priming: high performance goal vs control) x 2 (task: impression formation vs word search) x 2 (delay: none vs 5 minutes) x 2 (gender) design, participants (n = 288) completed three unrelated tasks. The impression formation task required participants to read about a target person. Some participants were primed with a performance-goal, and others were exposed to neutral words (i.e. word-search-task). The performance-goal and neutral priming were the same as in experiment one. Specifically, within each priming condition, some participants completed the experimental task immediately, whereas other participants had to wait five minutes before completing the task. The delay manipulation (filler task) required of participants to draw their family tree. The filler task was chosen with careful consideration as it does not require any expression of a performance goal, thus enabling results to observe the goal-priming effect. Findings suggested that the high-performance-goal priming condition led to increased performance due to the subconscious activation of the goal to perform well. Hence, participants in the high-performing-goal priming condition who were assigned to the impression-formation task considered the target person to be a high achiever compared to participants in the control grou*p.* This effect disappeared after a period of 5 minutes. Furthermore, the word-search-task displayed an immediate effect of priming on task performance, which significantly increased after a five-minute period. Given the effect obtained in experiment three, findings indicated that the priming effects on task performance in both experiments 1 and 2 were, "unlikely to have been mediated by an activated perceptual, nonmotivational construct" (Bargh et al. 2001, *p.* 1021).

In experiments 4 and 5, Bargh et al. (2001) set out to determine whether subconscious goals resulted in the same qualities (i.e. persistence and resumption) as consciously set goals. In experiment 4, persistence when completing a task, yet faced with an obstacle to attain the goal,

was examined. Bargh et al. (2001, *p.* 1021) argued that, "nonconsciously triggered goal pursuits carry critical features of consciously guided goal pursuits." Research on the conscious pursuit of goals has shown that individuals will persist in order to attain a goal despite potential obstacles (Bargh et al. 2001). Similarly, to the previous experiments, some participants were primed with a high-performance-goal and were explicitly instructed to complete a word-finding task within a period of two-minutes (i.e. compared to 10-minutes in experiments 1 and 3). Bargh et al. (2001, *p.* 1022) state, "we used this shorter time period so that performance-primed participants could not satisfy the primed goals to perform at a higher level, so that this goal would still be active at the time of the stop signal". This was in contrast to the explicit instructions provided to participants in the neutral condition, as performance-primed participants were primed to perform well on a task by finding as many words as possible within a short period of time. Of the seventy-six participants, one to three participants took part in each experimental session. The word-finding task where they were either primed with a high-performance-goal, or not, was placed face down on each participants' desks. Participants had two minutes to work on the task, where after they were asked to sto*p.* Results supported Bargh et al.'s (2001) argument that the subconscious activation of a performance-goal leads to higher task-performance, even in the face of obstacles.

In experiment 5, resumption of a task after being disrupted was examined. Considering the Self-Completion Theory (Wicklund & Gollwitzer, 1982), the primary indicator of high-goal-commitment is an individual's readiness to resume a task which had been interrupted. Hence, experiment 5 set out to demonstrate that attaining a goal subconsciously is also associated with higher levels of commitment (Bargh et al. 2001). The experiment (n = 65) utilised the same word-task as in the previous experiments but used an interruption paradigm whereby participants could either return to the task or move on to a non-performance related activity. Findings supported the prediction that the, "nonconsciously activated goal to perform well would result in a greater tendency to resume the word-finding task, foregoing the more enjoyable alternative activity" (Bargh et al. 2001, *p.* 1023). Conclusively, the results of all five experiments supported Bargh's (1990) recommendation that goals can become activated outside one's awareness, and once activated, subconscious goals operate similarly to consciously chosen goals.

Research indicates that specific and challenging conscious goals lead to significant increases in job performance (Latham & Locke, 2007; Locke & Latham, 2002). Consequently, there has been a growing interest among researchers studying behaviour for the need for subconscious

primed goal intervention tools, as it has been identified that external cues can subconsciously trigger goal-directed behaviour and consume fewer cognitive resources (Aarts & Dijksterhuis, 2003; Bargh, 1990; Bargh & Chartrand, 1997; Chartrand & Bargh, 2002; Locke & Latham, 2004). This is due to the fact that the research focus has shifted, in relation to performance, from conscious intentions to automatic, subconscious processes such as goal priming. Consequently, Locke and Latham (2004) recommended studying subconscious motivation and its relation to conscious motivation (i.e. goals) in order to examine the effect on performance. Interventions, therefore, differentiated between learning- and performance goals as they differ in terms of goal content. The former is process-focused and specifies procedures to facilitate the accomplishment of a task. The latter is outcome-focused and specifies a level of performance which an individual should attain (Winter & Latham, 1996).

Sceptical of Bargh et al.'s (2001) findings, Stajkovic et al. (2006) conducted an experiment examining the effect of subconscious goal priming on organisational task-related behaviour. The laboratory experiment manipulated both conscious (i.e. easy, do best, and difficult goal in relation to a performance task) and subconscious (i.e. primed goal and no priming) goals. The aim was to determine whether conscious- and subconscious goals had separate effects. Utilising a 2 (prime, no prime) x 3 (conscious easy, do your best, and difficult goals) factorial design, participants were randomly assigned to one of six conditions [(i) prime x conscious easy; (ii) prime x do your best; (iii) prime x difficult goal; (iv) no prime x conscious easy; (v) no prime x do your best; (vi) no prime x difficult goal). To study the effect of conscious goals in relation to a performance task (i.e. easy, do best, and difficult goal), an idea generation task was used where participants had to list uses for a wire coat hanger. Considering previous research (Locke & Latham, 1990), participants were provided with one page of instructions for the performance task (e.g. "*give all the uses you have seen or can imagine").* The next page stated the object and the conscious goal assignment (i.e. listing uses for a wire coat hanger) and had 22 lines for listing the uses. To obtain clear feedback, the first four lines were numbered for the easy goal, no lines were numbered for the do your best goal, and 12 lines were numbered for the difficult goal (Stajkovic et al. 2006). Furthermore, the subconscious goal (i.e. priming) used a scrambled sentence test, developed by Bargh et al. (2001), which was administered before measuring participants performance (i.e., the dependent variable). Participants were provided with five random words (e.g. *flew, eagle, blue, around, and the),* and were asked to construct grammatically correct four-word sentences (e.g. *The eagle flew around).* A total of 20 sentences were used in this test, with 12 out of the 20 sentences being achievement-related

words. In the priming condition, participants were asked to find 13 words, of which 7 were achievement-related (e.g. *win, master, succeed, strive, attain, compete, and achieve*) in a 10 x 10-word matrix. In the no-prime condition (control group), all the sentences contained achievement-neutral words (e.g. *melts water when butter heated*). The findings indicated significant performance effects on both a conscious and a primed goal (Stajkovic et al. 2006). The effect of the conscious goal was consistent with findings from goal setting research (i.e. a consciously set difficult goal resulted in better performance, followed by a do-your-best goal and then an easy goal). Additionally, the primed goal also indicated significant, increased performance compared to participants who were not primed. Results indicated that the primed goal only exerted an influence on performance when a difficult conscious goal or a do-your-best goal was present. Participants in the easy goal condition were unaffected by the primed goal (Stajkovic et al. 2006).

Thereafter, encouraged by the work of Stajkovic et al. (2006), and that at the time no study examining the effect of priming a goal in a work setting existed, Shantz and Latham (2009) conducted an experiment using CCRs (n = 81) who were employed to obtain money from potential donors. The experiment randomly assigned employees to one of four conditions: (i) primed-goal condition, (ii) conscious-goal condition, (iii) primed and conscious goal condition, and (iv) neither a primed nor a conscious goal condition. All employees were given the exact same task instructions for their shift in the exact same format. However, the instructions provided to the employees in the primed goal condition was printed over a backdrop photograph of a woman winning a race (see Figure 1), whereas the participants in the conscious goal condition received their instructions without a picture. Shantz and Latham (2009) found that the prime activated an implicit need for achievement. Results indicated that participants in the primed goal condition displayed an increase in performance and raised significantly more money from donors during their three-hour work shift, when compared to the participants who were not primed and urged to do their best. Table 1 displays descriptive statistics for all conditions. A statistically significant effect was indicated for both primed goals [F (1,77) = 4.94, p < .05, d = .43], and conscious goals [F (1,77) = 6.31, p < .05, d = .49]. Participants with a primed and a conscious goal condition, as well as those with a conscious goal condition, were given a specific, high goal which they had to attain in their shift (i.e. $1200) (Shantz & Latham, 2009). The participants with neither a primed nor a conscious goal were urged to do their best to raise as much money as possible. Shantz and Latham (2009) found that the prime activated an implicit need for achievement. Participants with a primed and a conscious goal condition,

as well as those with a conscious goal condition, were given a specific, high goal which they had to attain in their shift (i.e. $1200) (Shantz & Latham, 2009). The participants with neither a primed nor a conscious goal were urged to do their best to raise as much money as possible.

Table 1

Observed Means and Standard Error on Employee Performance for Subconscious and Conscious Goals

Condition	***Observed mean***	***SE***	***95% Confidence Interval***	
			Lower Bound	**Upper Bound**
Subconscious goals				
Priming condition				
No prime	14.74	1.25	12.25	17.22
Prime	18.68	1.26	16.17	21.20
Conscious goals				
Conscious goal				
Do your best	14.48	1.18	12.12	16.84
Difficult	18.94	1.32	16.30	21.57
Interaction between subconscious and conscious goals				
Priming and conscious goal				
Prime				
Do your best	16.69	1.58	13.55	19.83
Difficult	20.67	1.97	16.75	24.60
No prime				
Do your best	12.27	1.76	8.76	15.78
Difficult	17.20	1.76	13.69	20.71

Note. Observed Means and Standard Errors. Reprinted from "An exploratory field experiment of the effect of subconscious and conscious goals on employee performance," by A. Shantz and G.*P*. Latham, 2009, *Journal of Organisational Behaviour and Human Decision Processes*, *109* (1), *p.* 9-17. Copyright 2020 by Elsevier. Adapted with permission. Copyright permission in Appendix D.

Considering the stream of research which suggests that goal priming can enhance employee performance, Latham and Piccolo (2012) set out to examine whether a context-specific prime will lead to higher performance than a general achievement prime (Locke & Latham, 1990, 2002; Stajkovic et al. 2006). Latham and Piccolo (2012, *p.* 513) stated that, "no experiment has investigated whether a primed goal that is context-specific to the work setting leads to higher

performance than a primed goal that is general in nature." Therefore, Latham and Piccolo (2012, *p.* 514) hypotheses stated, "a subconscious goal that is context-specific to the work that is to be performed leads to a significant increase in job performance relative to the performance of employees who are primed for general achievement, and those in the control group". Similarly, to previous studies, CCRs (n = 58) were used to determine whether a subconscious, context specific goal leads to increased performance (i.e. a photograph displaying three employees talking into their respective headsets, as depicted in Figure 2) compared to a subconscious, general achievement goal. Participants were randomly assigned to one of three conditions: (i) context specific prime condition, (ii) general achievement prime condition, and a (iii) control group. The experiment utilised two photographs as primes. Four of the 58 participants quit their job during the period of the experiment, thus only data from 54 employees were analysed. The photograph of a woman winning a race was used as a general achievement prime (Figure 1), which allowed for direct comparisons with the results obtained by Shantz and Latham (2009). The photograph of people performing the same work as the employees in the experiment was the context-specific prime (Figure 2). The general achievement prime was chosen because, (i) a pilot study revealed that people were unable to identify the racer as male or female, (ii) the general achievement prime aroused the need for achievement and increased performance, and (iii) the prime was in no way related to the job of CCRs (Shantz, & Latham, 2009; Latham, & Piccolo, 2012). Thus, utilising the general achievement prime in the study allowed for direct comparisons to be made to the context-specific prime. The second prime (i.e., context-specific) was chosen as it showed employees working in a call center. None of the employees in the photograph worked in the call center which was used for the experiment.

Considering the experiment conducted by Shantz and Latham (2009), two particular limitations were faced, namely (i) lack of controls for demand effects and (ii) experimenter bias[8]. In order to overcome these limitations, the CCR supervisors (and not the researcher) provided CCRs with the information sheets. All participants received the same information sheet; however, the differentiating factor was the condition. In the context-specific prime condition, a colour photograph of three CCRs appeared in the upper-left-hand quadrant of the information sheet. In the general achievement prime condition, a colour photograph of a woman winning a race appeared in the upper-left-hand quadrant of the information sheet. In the control condition, no

[8] Demand effects of an experimental situation refers to the number of cues that convey an experimental hypothesis to a participant. Furthermore, experimenter bias refers to when a researcher unconsciously affects results, data, or a participant in an experiment.

photograph appeared on the information sheet. This experiment by Latham and Piccolo (2012) differed from Shantz and Latham's (2009, 2011) experiment which occurred within a three-hour shift, as this experiment occurred over a period of four consecutive workdays (Monday to Thursday). A pre- and post-test measurement was utilised, whereby the performance data of each participant was obtained via the organisation's software. The results of the experiment indicated that participants in the context-specific prime raised 16% more money relative to participants in the general achievement prime condition, and 85% more than participants in the control grou*p*. Therefore, the findings were interpreted to be supportive of the goal setting theory, as it indicated that a context-specific prime leads to a significant increase in job performance relative to the performance of the non-specific subconscious goal condition (i.e. the woman winning the race), and the control group (Table 2).

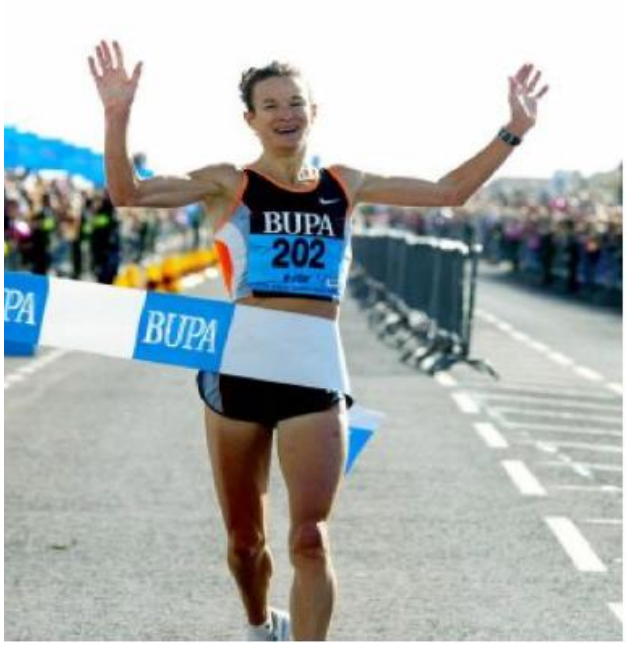

Figure 1 An image of Sonia O'Sullivan, an Irish athlete who won a silver medal in 2000 at the Olympics, which was used to prime an achievement goal. Reprinted from "An exploratory field experiment of the effect of subconscious and conscious goals on employee performance," by A. Shantz and G.*P.* Latham, 2009, *Journal of Organisational Behaviour and Human Decision Processes, 109* (1), *p.* 15. Copyright 2020 by Elsevier. Adapted with permission. Copyright permission in Appendix D.

Figure 2 Photograph of a context-specific prime. Reprinted from "The effect of context-specific versus nonspecific subconscious goals on employee performance," by G.*P.* Latham and R.F. Piccolo ,2012, *Journal of Human Resource Management*, *51* (4), *p.* 515. Copyright 2020 by John Wiley and Sons. Copyright permission in Appendix D.

Table 2

Observed Means and Test Results for Pre- and Post-test Job Performance

		Number of Pledges		**Dollars Raised**	
		Pre-test	**Post-test**	**Pre-test**	**Post-test**
Condition	***n***	**Log Mean (SD)**	**Log Mean (SD)**	**Log Mean (SD)**	**Log Mean (SD)**
Control	18	.45 (.32)	.45 (.28)	1.76 (1.02)	1.85 (.90)
Headset	17	.48 (.40)	.75 (.20)	1.85 (.96)	2.45 (.28)
Race	19	.41 (.36)	.65 (.32)	2.08 (.42)	2.01 (.97)
F		.18	5.37*	.75	2.72[1]

**p< .05.* [1]*p < .10.*

Note. Observed Means and Test Results. Reprinted from "The effect of context specific versus nonspecific subconscious goals on employee performance," by G.*P.* Latham and R.F. Piccolo, 2012, *Journal of Human Resource Management*, *51* (4), *p.* 518. Copyright 2020 by John Wiley and Sons. Copyright permission in Appendix D.

Note. The experiment consisted of three conditions, namely (i) the control group (Control), (ii) the context specific prime which utilised the photograph of CCRs (Headset), and (iii) the general achievement prime which utilised the photograph of a woman winning the race (Race). The experiment indicated a significant, marginal difference among the three conditions in the arousal of the need for achievement as indicated in the number of pledges raised, and dollar raised (*F*).

The Shantz and Latham (2009, 2011) findings indicated that subconscious primed goals enhanced job performance of CCRs. Research has shown that subconscious goals significantly increase human performance without their awareness of the influence thereof. Considering the Shantz and Latham (2011) and Latham and Piccolo (2012) experimental studies within call centers, Bipp, Kleingeld, van Mierlo and Kundo (2017) set out to determine the effect of subconscious goals on complex behaviour in real-life settings within the educational context. In order to test the former, an experiment (n = 127) with Grade 10 school students were conducted, including two different school subjects, namely German and mathematics. Utilising a 2 (setting: exam; library) x 3 (prime; control; no photograph) design, participants were randomly assigned to one of three conditions, namely (i) achievement prime (photograph of a woman winning a race), (ii) photograph of a resting mountain climber (i.e., this photograph had not been used before, but had been chosen as it represents no distinct achievement moment but was similar in nature to the achievement photograph as it featured a person and had a reference to sport), and (iii) control condition. Prior to their examinations, participants were instructed to complete a survey regarding their preparation. Participants in the experimental group received a survey with the photograph printed as a backdrop on the front page, and as headers for the following pages. After the examinations, students were instructed to complete a debriefing questionnaire to assess their awareness of the prime (Bipp et al. 2017). The results indicated that participants who were exposed to the achievement prime obtained higher grades than participants in the other two conditions (photograph of a resting mountain climber; control condition). Significant support was obtained for the effect of subconscious performance goals (Bipp et al. 2017).

In order to determine whether the effects of a subconscious performance goal can be enhanced by additionally priming a specific, difficult goal, a second experiment was conducted. Participants (n = 156) were randomly assigned to one of four conditions, namely (i) achievement prime (photograph of a woman winning a race), (ii) control photograph of a resting mountain climber, (iii) control condition (i.e., no photographs), and (iv) specific, difficult prime condition (photograph displaying a specific, high grade in the top right-hand-quadrant of the examination answer sheet) (Figure 3). The specific, high grade of nine was chosen due to grades ranging from one to 10, with 10 indicating outstanding performance. The photographs were printed below the instructions on the first page of the examination booklet and were repeated in the headers on the following pages. Only 141 participants were included in the results, as the 15 participants did not show up for the examination. Results indicated that

participants in the two priming conditions obtain significantly higher grades (general and specific, difficult prime photograph; n = 62, M = 7.07, SD = 1.26, F(1, 139) = 6.84, p = .01, Eta² = .05) than participants in the two control conditions (control and no photograph; n = 79, M = 6.42, SD = 1.62). Moreover, a significant main effect was obtained for participants in the specific-difficult prime condition (F (1. 60) = 6.75, p = .01, Eta² = .10) compared to participants who were exposed to the achievement prime (i.e., photograph of a woman winning a race). The results were interpreted as evidence supportive of subconscious goals enhancing academic performance. To this end, Bipp et al. (2017, *p.* 480) argued that, "compared to general-achievement primes, specific, difficult goals can be activated subconsciously in the academic context to realise even larger performance effects". Bipp et al. (2017, *p.* 480) further argued that the, "results enhance current knowledge about priming effects by establishing on the basis of Goal-Setting Theory what kind of photographs in terms of goal content may be used as successful primes".

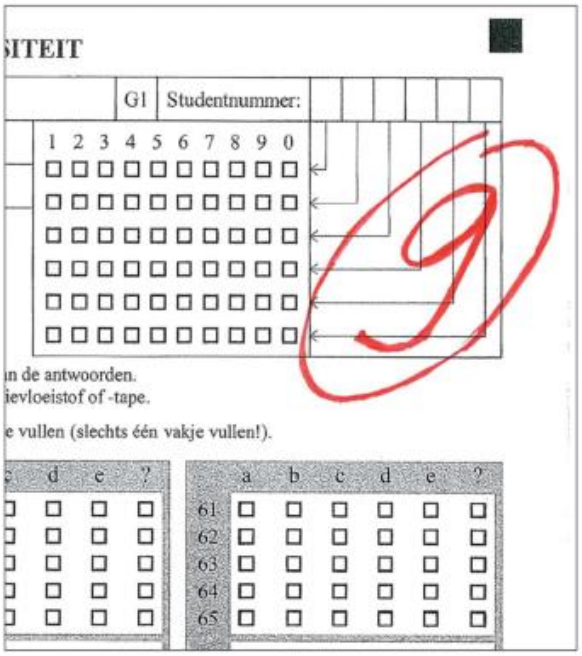

Figure 3 Photograph used in the Specific, Difficult Prime Condition. Reprinted from "The Effect of Subconscious Performance Goals on Academic Performance," by T. Bipp et al. 2017, *Journal of Experimental Education*, *85* (3), *p.* 474. Copyright 2020 by Taylor and Francis. Copyright permission in Appendix D.

Based on Latham and Piccolo's (2012) findings, Latham, Hu and Brcic (2019) conducted pilot studies to examine whether teams primed with a goal to cooperate performed better than teams who were not primed. The first pilot study consisted of five potential photographs of people working together in order to select a prime for the experiment to follow (Figure 4). Participants

(n = 40) were instructed to rank order the five photographs according to how well each photograph displays a team working together cooperatively (Latham et al. 2019). The photographs that were provided to participants were both in black and white, and in colour. The findings indicated that one of the context-specific photographs were ranked significantly higher than the other four photographs (F (4,199) = 25.74, p<.01; image A: M = 2.64 (SD = .36), image B: M = 2.69 (SD = .47), image C: M = 3.64 (SD = .58), image D: M = 3.01 (SD = .56), image E: M = 3.06 (SD = .54)]. However, there were no significant differences between the rankings of the black and white photographs and the colour photographs (F (1,39) = .81, p = .37). Based on the findings, photograph C was selected as a prime (Figure 4).

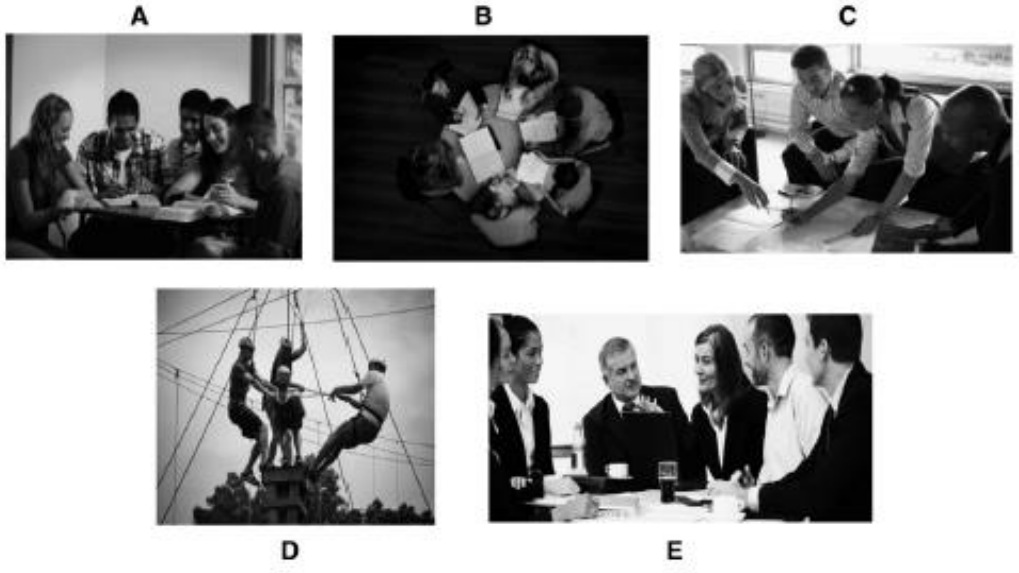

Figure 4 Photographs Used in Pilot Study 1. Reprinted from, "The Effect of a Context-Specific Primed Goal on Goal Commitment and Team Performance," by G.*P*. Latham, J. Hu and J. Brcic, 2019, *Journal of Applied Psychology, 0* (0), *p.* 8. Copyright 2020 by John Wiley and Sons. Copyright permission in Appendix D.

According to Strack and Deutsch (as cited in Latham et al. 2019), "a prime affects subsequent behaviour by activating concepts that spread attention to other concepts that are episodically linked". Although the research selects the prime, the researcher does not have control over the concept the prime activates (Latham et al. 2019; Stroebe & Strack, 2014). Therefore, the second pilot study was conducted to determine whether photograph C (the prime selected in pilot study 1) aroused individual's implicit motive for cooperation (Latham et al. 2019). Participants (n = 105) were randomly assigned to either the experimental- or control condition. The former (n = 49) were instructed to write a story about the photograph selected in pilot study 1, whereas the latter (n = 56) were instructed to write a story about a photograph of a rock. Participants were given a monetary payment for their participation. The instructions given to participants were

identical to those given by Shantz and Latham (2009). To ensure objectivity, a text analysis program (LIWC) was used in scoring the stories. The program used 18 synonyms of cooperation to determine the amount of cooperation-related words in the stories. The findings provided significant support for the use of the photograph identified in the first pilot study, as it aroused the implicit motive for cooperation (M = 2.07, SD = 3.40) compared to the photograph of the rock (M = .04, SD = .22).

To examine whether teams primed with a goal to cooperate performed better than teams who were not primed, participants (n = 139) were randomly assigned to either the experimental- (n = 23) or control (n = 27) groups. Participants in the experimental group received the context-specific photograph identified in the first pilot study (Figure 4, photograph C), in the bottom right-hand corner of the team activity sheet. Participants were only exposed to the prime during their team's task. Utilising the "Lost on the Moon Task" (Hall & Watson, 1970), "a team is told to imagine that it has crash-landed its ship on the surface of the moon. The space vehicle is damaged, and the team must rank order its preference for the 15 undamaged items that will be taken on a 200-mile trek to the mother-ship" (Latham et al. 2019, *p.* 10). Participants had 10 minutes to complete the task individually, and 15 minutes to complete it as a team. Participants were also instructed that they would be entered into a lucky draw if their team scored in the top 10th percentile. In order to measure participants performance, the individual's as well as the team's ranking of items were compared to the rankings of five experts (The Crew Equipment Research Unit at the National Aeronautics and Space Administration, NASA). To eliminate demand effects, participant's awareness of the effect of the photograph on behaviour was assessed with a debriefing questionnaire (Bargh, Chen & Burrows', 1996; Shantz & Latham, 2009, 2011). Findings indicated that participants in the experimental condition (M = 38,65, SD – 8.61) outperformed participants in the control condition (M = 44.56, SD – 8.62) [t (48) = 2.41, p = .02, d = .69] (i.e., lower scores indicate higher performance). The experiment provided significant support that, "a team's goal can be triggered by an environmental stimulus in the absence of conscious choice or deliberation" (Latham et al. 2019, *p.* 12).

Research has predominantly utilised photographs to prime a goal (e.g., Chen & Latham, 2014; Latham & Piccolo, 2012; Shantz & Latham, 2009, 2011; Stajkovic et al. 2006). Stajkovic et al. (2018) therefore conducted an experiment to examine the effect of utilising words to prime a goal. A customer service organisation was used where employees were responsible to answer phone calls to address questions, provide solutions, and handle customer complaints. Participants worked 8-hour days. Participants (n = 46) were randomly assigned to either an

experimental- (n = 23) or control (n = 23) group. To test the hypotheses, the Chief Executive Officer (CEO) of the organisation sent weekly motivational emails, on a Monday morning, to all employees. The emails typically included both individual and group accomplishments, congratulatory comments, and courageous stories. During the experiment, the CEO included achievement-related words (12 out of 100 words) within the weekly email sent to employees who were part of the experimental group. All emails contained a "read receipt request" to enable the researcher to track whether an employee opened the email or not. All employees opened the email within one hour. The organisation measures employee performance in two ways, namely (i) Average Call Handling Time (ACHT) which refers to the time that it takes an employee from the start to the end of the call (i.e., efficiency measure), and (ii) Average Call Resolution Time (ACRT) which refers to the percentage of customer calls handles by an employee in which the customers issue was resolved (i.e., effectiveness measure). Similarly, to previous experiments, a post-experimental questionnaire was given to each employee to complete to assess their awareness of the prime. Examining the results of the ACHT, a significant difference between participants in the experimental group (79.84 seconds) and the control group (122.98 s) in terms of the call handling time (ACHT) [F (1, 36) = 7.01, p - .011, ηp^2 = .16] emerged. This translated to a 35% performance improvement between the experimental- and control group. In order to test if the priming effect on average week performance was influenced, the average performance of participants ACHT and ACRT was analysed. A significant effect was obtained for participants in the experimental group compared to participants in the control group [F (1, 34) = 14.09, p < .001]. Examining the ACRT results, a significant difference in the percentage of calls resolved between the experimental group (92.38%) and the control group (80.55%) was evident [F (1,42) = 7.20, p = .01, ηp^2 = .15]. Prior to the experiment, the average percentage of calls resolved by the experimental group was 86.47%. This indicates roughly a 15% performance improvement. In order to test if the priming effect on average week performance was influenced, the average performance of participants was re-analysed excluding Monday (i.e., Tuesday-Friday). A significant effect of primed goal on ACRT was obtained for participants in the experimental group compared to participants in the control group [F (1, 42) = 9.71, p < .003] (Table 3).

Table 3

Descriptive Statistics for the Experiment

Variable	**Control**					**Primed goal**				
	n	*M*	*SD*	*Min*	*Max*	*n*	*M*	*SD*	*Min*	*Max*
ACHT PrW	18	101.50	10.30	81.10	121.20	21	97.85	18.09	79.10	156.10
ACHT EW	23	122.31	63.94	39.20	275.20	23	81.35	26.01	31.00	126.30
ACHT T-F	23	91.92	15.14	60.30	131.93	21	74.98	16.59	44.80	101.08
ACHT PoW	22	86.57	17.13	56.44	118.24	22	95.23	12.85	65.72	120.92
ACRT PrW	22	80.63	8.38	68.76	96.06	23	85.65	6.15	68.94	95.66
ACRT EW	23	81.52	18.67	8.60	100.00	23	91.88	5.49	80.20	100.00
ACRT T-F	23	82.06	5.93	70.75	90.25	23	87.65	5.99	75.30	96.73
ACRT PoW	23	82.06	5.93	70.75	90.25	23	82.59	8.19	69.18	96.73

Note. This is a specific note referring to coloumn one. PrW (Prior Week); EW (Experimental Week); PoW (Post Week); T-F (Tuesday to Friday)

Note. Descriptive Statistics. Reprinted from "Prime and Performance: Can a CEO Motivate Employees Without their Awareness?," by A.D. Stajkovic et al. 2019, *Journal of Business and Psychology,* 34, *p.* 796. Copyright 2020 Springer Nature. Copyright permission in Appendix D.

2.4.1.1 Learning goal priming interventions

According to Latham et al. (2010), the effect of subconscious learning goals on various outcomes is yet to be explored. The most recent experiment investigating subconscious learning goals was conducted by Chen and Latham (2014). These authors argued that it is vital to study the effect of priming learning goals due to the fact that organisations continuously expect employees to master tasks and solve problems. Research has found that, "performance goals are effective on tasks where an individual has the knowledge and skill necessary to perform it. Learning goals are effective in improving performance on complex tasks where the person lacks the requisite knowledge and skill to perform it effectively" (Brown & Latham, 2002, *p.* 277). Research has found that when employees do not possess the knowledge or skills to complete a task, consciously set learning goals are more effective at improving performance (Brown & Latham, 2002; Latham & Brown, 2006; Winters & Latham, 1996). Shantz and Latham (2011) suggest that goal priming can be harnessed to improve efficiency due to the degree of cognitive resources that conscious goals consume.

To this end, Shantz and Latham (2009) suggested the possibility of the picture of "The Thinker" by Rodin, priming a subconscious learning goal. Thus, with no theoretical nor empirical research indicating that one photograph is superior to another, in terms of priming knowledge acquisition, a pilot study was conducted to identify which photograph of "The Thinker" is most

likely to make people think. Therefore, Chen and Latham (2014) identified eight possible photographs of "The Thinker" which varied in terms of their backdrop, colour, and orientation. Twenty-eight participants were asked to rank order the eight photographs according to which one makes them think the most (score one) to the least (score eight). Two photographs were ranked as making the students "think the most" and consequently the photograph with the lowest mean and standard deviation was selected (Rodin's "The Thinker") (see Figure 5). Subsequently, in order to empirically examine whether the photograph primes learning and thinking, a study was conducted using 66 participants (Chen & Latham, 2014). Participants were randomly assigned into one of four conditions, namely (i) photograph of Rodin's "The Thinker" (n = 17), (ii) photograph of a woman winning the race (n = 18), (iii) photographs of both "The Thinker" and the woman winning the race (n = 15), and (iv) control group (n = 16). Participants in the three experimental conditions were given instructions to write one imaginative story about the picture given to them. In the control group, no photograph was presented, and participants were asked to, "*Close your eyes and picture something. Now tell a story about it*" (Chen & Latham, 2014, *p.* 91). Apart from the latter, all participants were given the same instructions. The experiment set out to measure the word imageries that predicted either learning or achievement, by counting the number of insight and achievement related words in the story participants wrote. Results indicated that participants who were primed with Rodin's "The Thinker" included significantly more insight related words (M = 3.94, SD = 1.67) compared to participants in the control condition (M = 1.69, SD = 1.29) (t(31) = 4.32, p = .00, d = 1.53), and those primed with the photograph of the woman winning the race (M = 2.36, SD = 2.18) (t(33) = 2.40, p = .022, d = .82). Furthermore, participants primed with the photograph of a woman winning a race wrote more achievement related words (M = 4.13, SD = 2.68) compared to participants in the control group (M = 1.73, SD = 1.79) (t(32) = 3.03, p = .005, d = 1.06) and those primed with Rodin's "The Thinker" (M = 2.05, SD = 1.99) (t(33) = 2.59, p = .014, d = .89). Therefore, findings suggest that the photograph of Rodin's "The Thinker" primed individuals to engage in thinking, thus priming a learning goal (Chen & Latham, 2014).

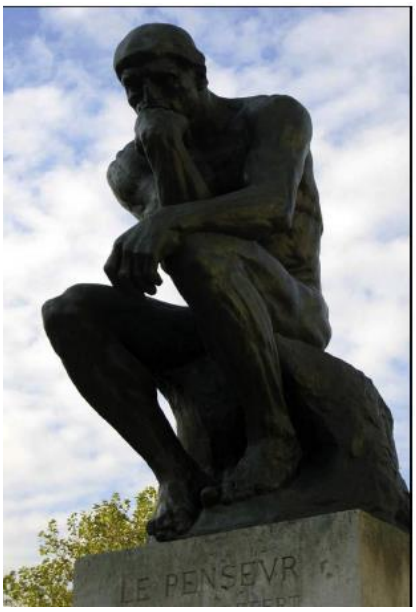

Figure 5 Rodin's "The Thinker". Reprinted from "The effect of priming learning vs performance goals on complex tasks," by X. Chen and G.*P*. Latham, 2014, *Journal of Organisational Behaviour and Human Decision Processes*, *125*, *p.* 91. Copyright 2020 by Elsevier. Copyright permission in Appendix D.

Consequently, Chen and Latham (2014) conducted another experiment with the photograph of Rodin's "The Thinker". The main aim of this study was to investigate whether a subconscious learning goal (i.e. prime with the photograph) significantly improves performance on a knowledge-acquisition task, when compared to a subconscious performance goal or a control condition employed for the same purpose (see Figure 6). Participants (n = 88) were requested to complete a scheduling task in order to examine the effects of subconscious learning- and performance goals on complex task performance. Thus, participants were asked to "complete as many accurate class schedules as possible" within four minutes to obtain a pre-measure of each participant's ability to perform the task (Chen & Latham, 2014, *p.* 93). Thereafter, participants were exposed to a "filler task" which assessed their ability to write short stories about neutral pictures. During this time, participants were presented with one of four conditions in a 2 x 2 factorial design: (i) a learning-goal prime condition (i.e. a photograph of Rodin's, "The Thinker"), (ii) an achievement-goal prime condition (i.e. a photograph of a woman winning a race), (iii) both prime conditions, and (iv) a control condition (i.e. a photograph of trees and rocks). The prime was presented for only 75 seconds and then removed immediately to commence the 20-minute "filler task". According to Chen and Latham (2014, *p.* 90), "this temporal marker is important for eliminating the rival hypothesis that semantic activation by a prime, rather than a goal, explains a change in subsequent behaviour." After the administration of the "filler task", participants completed the same scheduling task over three eight-minute

trials. The scheduling task merely required thinking of ways to perform it effectively rather than with effort and persistence (i.e. how to complete as many accurate class schedules as possible), thus no prior experience is required. The time between seeing the prime and performing the required task was approximately 45 minutes. Findings indicated that the primed learning goal (M = 9.28, SD = 2.90) led to significantly higher performance relative to the primed performance goal (M = 7.09, SD = 3.29) (t (38) = 2.23, p = .032, d = .71) and the controlled condition (M = 6.68, SD = 4.43) (t (41) = 2.22, p = .032, d = .69). Thus, these findings were interpreted as demonstrating that a primed learning goal leads to increased performance on a task requiring the acquisition of knowledge. The experiment validated the usefulness of the goal setting theory in order to study subconscious goals in relation to performance.

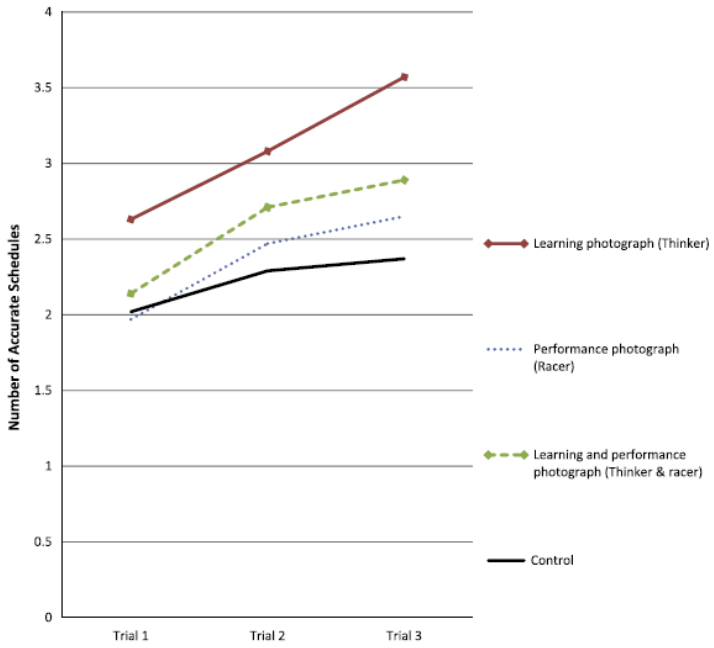

Figure 6 Task Performance across three trials. Reprinted from "The effect of priming learning vs performance goals on complex tasks," by X. Chen and G.P. Latham, 2014, *Journal of Organisational Behaviour and Human Decision Processes, 125, p.* 94. Copyright 2020 by Elsevier. Copyright permission in Appendix D.

Research studies, such as this one (Chen & Latham, 2014) and others (Bargh et al. 2001; Latham & Locke, 2007; Locke & Latham, 2002; Stajkovic et al. 2006; Shantz & Latham, 2009, 2011) have shown that utilising the subconscious in goal setting is effective as more conscious memory is available, increasing the capacity to perform tasks (Bargh et al. 2001; Chen & Latham, 2014; Stajkovic et al. 2006). Subconscious goals can be primed via environmental stimuli, which consequently affects employee performance. Furthermore, various studies have

shown that subconscious goals affect cognition and behaviour in a similar manner as conscious goals. Thus, research suggests that conscious goal setting can be positively applied to the understanding of subconscious goals (Locke & Latham, 2002; Sitzmann & Bell, 2016; Stajkovic et al. 2006).

2.4.1.2 Health goal priming interventions

Fishbach, Friedman and Kruglanski (2003) conducted an experiment in which they primed individuals supraliminally by exposing them to the word "diet", through being in a room where magazines regarding dieting and exercising were on display. Additionally, these individuals were also offered food. The experimental group, compared to the controlled group, consistently displayed the choice of an apple over chocolate. Thus, it was found that individuals who were exposed to diet-related words or images were more prone to make healthy choices. In addition to this, Buckland, Finlayson, Edge and Hetherington's (2014) recent research have indicated that individuals – mostly dieters - who observe or consume healthy food, were more likely to reduce their unhealthy intake.

Similarly, Papies and Hamstra (2010) conducted an experiment (n = 156) to understand the effects of diet primes. Moreover, the study examined, "whether unobtrusively priming the goal of dieting may lead participants to control their eating behaviour, but only when they highly value the goal of dieting for themselves, that is, when they are actually dieters" (Papies & Hamstra, 2010, *p.* 386). For half of the participants, the goal of dieting was primed with by placing a poster regarding a low-calorie recipe on the inside of a glass door to a butcher's store. The poster was placed in such a way that it was clearly visible from the outside. The poster displayed words such as "slim Figure", "weight", and "low in calories". The recipe itself was not displayed on the poster, but it was announced that the recipe was available at the counter. The experiment had a 2 x 2 (condition: recipe cue versus control x dietary restraint: low versus high) factorial design. The poster was visible on two mornings and two afternoons, so that customers visiting the store at those times were automatically assigned to the recipe cue condition. In the control condition, no poster was visible on the door. Upon entering the store, a tray containing meat snacks was presented on the counter as usual, accompanied by a sign stating that the meat snacks were samples for tasting. There was a continuous smell of grilled chicken drifting through the store from a large grill oven at the back. Customers were assisted by shop assistants, as usual. However, the experimenter was also behind the counter seemingly at work, whilst modestly registering the number of snacks a customer had whilst waiting at the

counter. Additionally, the experimenter recorded the total time that customers spent in the store. The results obtained displayed that those individuals who had been subconsciously primed, in terms of healthy eating/dieting, consumed less of the freely available snacks in the store.

Another study regarding the priming of behaviour was conducted where recipe flyers containing healthy eating and subtle diet primes were handed out to customers, before they commenced with their shopping, in a grocery store. With the aim of observing obese and non-obese shoppers, the results indicated that although obese shoppers would purchase unhealthy foods in a controlled environment, as soon as they were exposed to the flyer upon entering the store, their purchases of unhealthy foods significantly declined, as evidence by their cash register receipt after leaving the store (Papies, Potjes, Keesman, Schwinghammer & van Koningsbruggen, 2014).

Health goal priming interventions were replicated in a restaurant by Papies and Veling (2013), where the primes were integrated into the menu. The participants (n = 89) were exposed to a 2 x 3 (condition: diet goal reminders versus a control group x dieting status: non-dieters versus chronic dieters versus current dieters) factorial design. The experiment extended over five evenings, namely on three Thursday evenings and two Friday evenings, over a three-week period. The dinner menus, which displayed options such as burgers and fries, were placed on each table. Each menu was accompanied with an additional sheet displaying a special offer of three salads (either containing fish, meat or vegetarian), briefly stating a description of each. As a result, all participants who sat together received the same prime. In the diet reminder condition, the brief description included phrases such as “low in calories” or “calorie-conscious”. The results of this experiment confirmed that individuals who were exercising healthy eating or dieting made healthier menu choices, by selecting a salad instead of a burger, than non-dieters (B = -2.83, SE = 1.31, p = .031, OR = 17.00) (illustrated in Figure 7).

In conclusion, the above experiments utilised supraliminal priming techniques. Thus, when individuals were exposed to the prime, they were aware of its existence but were unable to draw a direct relationship between the primed goal and the experimental task that followed it (Chartrand & Bargh, 2002). Findings indicate that goal priming supports the pursuit of long-term health goals.

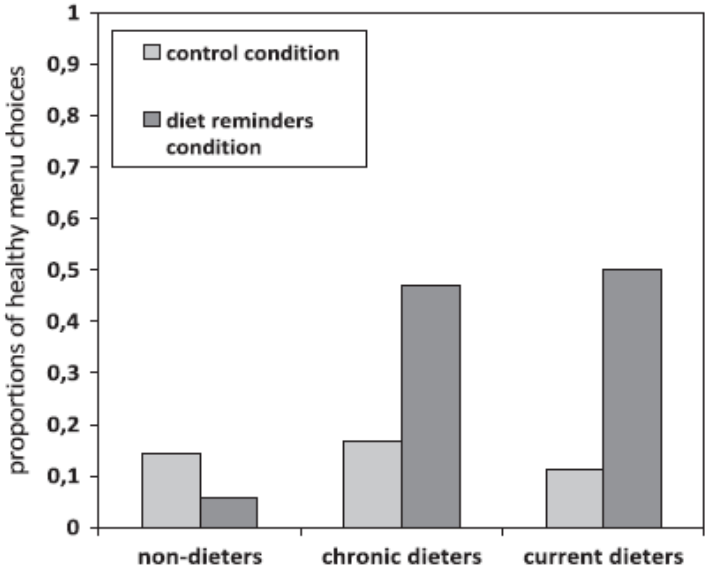

Figure 7 Proportion of healthy menu choices of non-dieters, chronic dieters, and current dieters, in both the control condition and the diet reminders condition. Reprinted from "Healthy dining. Subtle diet reminders at the point of purchase increase low-calorie food choices among chronic and current dieters," by E.K. Papies and H. Veling,, 2013, *Journal of Appetite, 61,* pp. 4. Copyright 2020 by Elsevier. Copyright permission in Appendix D.

2.5 Replicability of Primed Goal Interventions

According to Morin (2016), the quality of science that is generated is evaluated by the ability to replicate or reproduce findings from previous studies. According to Dennis and Valacich (2014, *p.* 1), "new knowledge is often not considered valid until the original study has been replicated". Replication occurs when, "independent scientists can obtain similar results using the same methods with different data set" (Shepard et al. 2017, *p.* 387). Through replicating studies, validity is assessed, generalisability is enhanced, and confidence in findings are increased (Morin, 2018; Shepard et al. 2017). In order to determine the reliability of results obtained, and to interpret the findings with confidence, Campbell and Stanley (1966) state that replication is required at different locations and different points in time.

Due to the increasing interest of gaining knowledge of the subconscious processes to increase understanding of organisational behaviour, primed-goal interventions have been developed to improve employee performance (Latham & Locke, 2012; Latham et al. 2010; Locke & Latham, 2004, 2006; Miner, 2008; Latham & Piccolo, 2012; Shantz & Latham, 2009, 2011). Therefore, considering the field experiment conducted in a work setting by Shantz and Latham (2009), whereby the job performance of CCRs was found to be significantly higher when they were exposed to a general-achievement prime condition compared to the control group, these authors subsequently designed two other studies (Shantz & Latham, 2011) to replicate the original

results in two different organisations and geographic locations (n = 20; n = 44). The results of a meta-analysis of this combined data, indicated that the average d-statistic (i.e. the effect size of the manipulation from the data collected) across the three field experiments was .56 (p < .05), with a combined sample size of 145, and a confidence interval ranging from .35 to .78. Therefore, this result provided strong support for the effectiveness of primed-goal interventions to increase CCRs job performance. The positive, significant effect of subconscious performance goals on job performance has therefore been shown to be replicable (Shantz & Latham, 2011).

2.6 Replication of a Primed-Goal Intervention Within South Africa: A Study on Call Center Representatives

The call center industry is rapidly evolving, also in South Africa (Dhanpat et al. 2018; Pillay, Buitendach & Kanengoni, 2014). Employing 50 000 to 180 000 people from 2005 to 2010, the industry is constantly creating new jobs in South Africa (Simons & Buitendach, 2013). Research has shown that call centers globally have experienced an increasing need for efficiency (i.e. time to handle a customer call) as well as high quality service (Nel & De Villiers, 2004; Williams, 2000). A challenge which persists within the call center environment are high turnover rates (Pierre, & Tremblay, as cited in Görgens-Ekermans & Kotzé, 2020). According to Simons and Buitendach (2013), a call center environment is likely to experience performance problems. This is due to the work environment of CCRs which is characterised by high levels of stress, long working hours, absenteeism, and emotional burdens (Pillay et al. 2014).

Research has shown that human behaviour is goal oriented, which determines how individuals perceive, think, and act (Bargh & Chartrand, 1999; Bipp et al. 2017; Dijksterhuis, Chartrand & Aarts, 2007). According to Locke and Latham (2002, *p.* 706), “Goals affect performance through their influence on the direction, intensity, and persistence of effort and are most effective when individuals are committed to their goals and receive feedback from their performance”. Examining the effect of goals, including priming, in relation to performance has been found to be beneficial due to the increasing need for high, efficient job performance within organisations. As Seijts and Latham (2005, *p.*129) note, “Today’s workforce continues to be under intense pressure to produce tangible results. They are in ‘performance mode’.” Empirical evidence has provided strong support for the effectiveness of goal priming to increase the job

performance of CCRs (Latham & Locke, 2012; Latham et al. 2010; Locke & Latham, 2004, 2006; Miner, 2008; Latham & Piccolo, 2012; Shantz & Latham, 2009, 2011).

Organisations can enhance favourable performance behaviour by monitoring the environmental cues to which employees are exposed (Chartrand, Dalton & Cheng, 2007). By ensuring that employees are exposed to messages that are related to success or effort (i.e. priming), resource allocation and task performance of employees will be enhanced (Sitzmann & Bell, 2015). As CCRs operate in a demanding environment where work is often repetitive, and due to strict adherence to performance evaluations, CCRs are often de-motivated (D'Alleo, & Santangelo, 2011; Dhanpat et al. 2018; Tuten, & Neidermeyer, 2004). Therefore, call centers have increasingly incorporated competitions as incentives to motivate and reward CCRs who perform well (Aksin, Armony & Mehrotra, 2007; Goodwin et al. 2011). Considering the growing interest in the use of photographs within the field of organisational studies, research has shown that subconscious goals may serve as a powerful tool to enhance job performance (Bipp et al. 2017; Chen & Latham, 2014; Shantz & Latham, 2009; 2011; Latham & Piccolo, 2012). Given the rapid growth of the call center industry, and the challenges faced, this study aimed to replicate a combination of the experiments' conducted by both Latham and Piccolo (2012) and Shantz and Latham (2011) within the South African context to contribute to the development and implementation of simple, cost-effective intervention(s) with the aim of increasing job performance levels of CCRs. To the knowledge of the researcher, no such study has been, to date, conducted in the call center industry in South Africa.

2.7. Summary

Bargh's (1990, 1994, 2016) automaticity model states that a goal is a mental representation stored in an individual's memory which can be activated by a situational cue (i.e. priming effect). Goal priming can occur either subliminally or supraliminally. The former is presented below focal awareness, whereas the latter is where an individual is aware of the external stimulus (i.e. prime), but unaware of the potential influence thereof.

Priming effects have been investigated by social psychology experiments, and due to the increasing interest in understanding human behaviour within the work environment, primed-goal interventions have been developed to improve employee performance (Latham & Locke, 2012; Latham et al. 2010; Locke & Latham, 2004, 2006; Miner, 2008; Latham & Piccolo, 2012; Shantz & Latham, 2009, 2011). Several experiments, both laboratory- and field experiments, have found a causal effect for the subconscious goal-performance relationships. Stajkovic et al. (2006) conducted the first laboratory experiment on subconscious goals.

Findings provided support for both conscious- and subconscious goals and indicated support that goal difficulty is consistent with the Goal-Setting Theory. More specifically, experiments found photographs to be effective for priming achievement goals. A photograph of a woman winning a race was utilised in several studies, where findings revealed an increase in performance of individuals. Furthermore, an achievement-related prime aroused the need for achievement (Shantz & Latham, 2009). This field experiment on primed goals involved CCR's and findings supported the results by Stajkovic et al. (2006). That is, additive effects for conscious- and subconscious goals were obtained. Shantz and Latham (2009) found that CCR's in the primed (i.e. photograph of a woman winning a race) and the conscious goal condition raised more money than CCR's in the other conditions. Shantz and Latham (2011) replicated this study within two different call centres, minimising experimenter bias by using the organisational representative to assist in the execution of the study rather than the experimenters. This replication supported the effect that CCR's in the primed condition raised more money than other CCR's. In order to ascertain whether findings from experiments are robust, exact replication is required. Hence, Latham and Piccolo's (2012) experiment conducted an exact replication of the above experiments. That is, participants were CCR's and the prime was the photograph of the woman winning a race. Results indicated that CCR's in the primed goal condition raised 60% more money than CCR;s in the control condition. Moreover, a context-specific prime was introduced as research indicated that a context-specific prime (i.e. photograph of call center employees performing their job) compared to a achievement prime (i.e. photograph of a woman winning a race) results in increased performance. Findings indicates that CCR's in the context-specific prime raised 16% more money than those in the achievement-condition, and 85% more money than CCR's in the control condition. Bipp et al. (2017) also found that the achievement prime enhanced exam performance of German and Dutch Students. Stajkovic et al. (2019) conducted an experiment whereby 12 achievement related words were included in a CEO's Monday morning emails to employees. Results indicated that employees in the primed condition out-performed employees in the control condition. As presented in the literature review, previous research has thus provided strong evidence for the use of primed goal interventions to increase job performance levels.

CHAPTER 3: RESEARCH METHODOLOGY

3.1 Introduction

The purpose of this research study was to conduct a controlled field experiment to test the influence of a primed-goal intervention on job performance outcomes of CCRs in a South African outbound call center. The study set out to replicate previous research in this regard, and to empirically evaluate the intervention. To achieve the research objectives, formulated in chapter one, an argument was made with the relevant research review for the need of such an intervention in South African call centers.

Thus, to empirically evaluate the intervention, a detailed and comprehensive description of the research methodology that was used to do so, is required. Hence, the purpose of this chapter is to provide an overview of the research design, research hypotheses, and sampling approach that was used in this study. Furthermore, an evaluation of the ethical risks involved in this study will also be presented.

3.2 Research Aim, Question, Objectives and Hypotheses

Performance is a multi-dimensional construct and remains a core concept within the field of Industrial-Organisational Psychology. The role and contribution of employee performance towards achieving organisational- success and performance has gained interest over the past years. With the increase in customer-centerd services, the service industry has rapidly expanded with the establishment of call centers (Dhanpat et al. 2018). However, the working conditions of CCRs are not always conducive to achieving optimal performance and has thus led to call centers being labelled as “dark satanic mills of the twenty first century” (Armistead et al. 2002, *p.* 246). South African call centers are confronted with numerous challenges. Work practices in South African call centers vary, and the quality of call center management is a major problem (Benner, 2006). Benner (2006, *p.* 1037) states that, “there is a strong tendency to emphasise the aspects of the work that can be codified, rather than the tacit knowledge dimensions of the work. This is likely to contribute to continued degradation of the work itself, rather than improved upgrading over time”. Consequently, a trend that has been evident since the early 2000’s is that call centers continue to experience declining job performance levels (Tuten & Neidermeyer, 2004).

Given the current research evidence of the effect of the subconscious process of goal priming on job performance, the aim of this study was to replicate previous studies in this domain by examining the effect of a subconscious prime on job performance of CCRs (Chen & Latham, 2014; Shantz & Latham, 2009; 2011; Latham & Piccolo, 2012). Subsequently, the research initiating question for this study was: "*Is it possible to increase job performance outcomes of CCRs with a primed goal intervention?*". This question was addressed by attempting to achieve the following research objectives:

a) developing a controlled field experiment to test the influence of a primed-goal intervention on job performance outcomes, thereby replicating previous research in this regard, and to
b) empirically evaluate the intervention.

In an attempt to replicate the studies of Shantz and Latham (2011) and Latham and Piccolo (2012) where outbound call centers were utilised to raise money, the call center that was utilised in this study was a South African outbound, short-term insurance call center. An outbound call center is where CCRs make outgoing calls to prospective and existing customers (Pandy, & Rogerson, 2014). Contrary, an inbound call center, "offers technical support, taking reservations or fielding information queries" (Pandy & Rogerson, 2014, *p.* 24). The main business of the respective call center is focused on current- and new customer sales. When CCRs contact current- or new customers, a needs analysis is done to determine whether the client may be interested in different offerings (e.g. a cheaper premium, better service, improved policy). Based on the information elicited, CCRs provide customers with an insurance quote. The objective of the quote is to translate it into a sale (e.g. policy sale) which translates into a rand value sold. The performance outcomes of CCRs in the respective call center that was utilised for the experiment, were therefore assumed to be objective indicators of CCRs performance (number of quotes done; number of policies sold; total rand value sold).

Consequently, the following hypotheses were developed:

Hypothesis 1: The job performance outcome of the number of quotes done, will significantly increase as a result of participation in the primed-goal intervention.

Hypothesis 2: The job performance outcome of the number of policies sold, will significantly increase as a result of participation in the primed-goal intervention.

Hypothesis 3: The job performance outcome of the total rand value of policies sold, will significantly increase as a result of participation in the primed-goal intervention.

3.3 Research Design and Procedure

3.3.1 Research design

Research has indicated that the job performance of CCRs is significantly higher when exposed to a general-achievement prime condition compared to a neutral condition (Shantz & Latham, 2009). Considering these findings, Shantz and Latham (2009) designed two other studies which set out to replicate the original results in two different organisational settings and geographic locations (n = 20; n = 44) (Shantz and Latham, 2011). The latter studies provided strong support for the effectiveness of primed-goal interventions which set out to increase job performance of CCRs. Moreover, Shantz and Latham's (2009, 2011) experiments, which indicated a significant effect of subconscious goals on job performance, have been shown to be replicable.

In order to determine whether job performance outcomes can be increased with a primed-goal intervention, within a South African call center, the experiment conducted by Shantz and Latham (2011) was replicated in this study. According to Babbie and Mouton (2017, *p.* 72), the "research design addresses the planning of scientific inquiry – designing a strategy for finding out something." This strategy refers to the process of how one intends to empirically evaluate the research hypothesis (Mouton & Babbie, 2013).

For the purpose of this research, a quantitative research design was followed. This type of design is often relied on to aid the process of describing, predicting, and explaining complex phenomena at work. Quantitative research is defined as a "formal, objective, systematic process implemented to obtain numerical data for understanding aspects of the world" (Grove, Burns & Gray, 2012, *p.* 23).

In order to answer the research question, more specifically, a true experimental research design was used to investigate whether the primed-goal intervention led to a change in job performance, in this field experiment. To the knowledge of the researcher, this is the first replication of the field experiments by Shantz and Latham (2011) and Latham and Piccolo (2012), conducted within the South African environment.

In experimental designs, an experimental group is administered a stimulus, whilst a control group does not receive the experimental stimulus (Babbie & Mouton, 2017). According to Babbie and Mouton (2010), having an experimental- and control group allows for an investigation into the effects of the intervention on the dependant variable, by observing the differences between the two groups as only one group received the intervention. Therefore, if

only the experimental group displays a change in the dependant variable, it can be argued that the change is due to the intervention. However, if both groups display a change in the dependant variable it is due to external factors, rather than exposure to the intervention itself.

In the present study, participants in the experimental group were exposed to a primed-goal intervention, while participants in the control group continued as per normal without exposure to the intervention. All participants were measured based on hard performance data (i.e. number of quotes done; number of policies sold; total rand value sold) the week prior to the intervention (T1), immediately after the intervention (T2), and the week after the intervention (T3). The performance data of CCRs were tracked by the organisational representative at different points in time (T1, T2, & T3). This was done to determine the effect of the prime on job performance outcomes (Shantz & Latham, 2009, 2011; Latham & Piccolo, 2012). More specifically, this experiment replicated the experiment by Latham and Piccolo (2012) which differed from the Shantz and Latham (2011) study with regards to the length of time for which data were collected. The latter experiment collected data after a 4-hour work shift, whereas the former over a period of four consecutive workdays (Latham & Piccolo, 2012). Shantz and Latham (2011, *p.* 294-295) state, "the data revealed that the beneficial effect of a primed goal on job performance endures beyond a few seconds or a few minutes, as has been found in previous social psychology experiments (e.g., Moskowitz & Grant, as cited in Shantz & Latham, 2011), to an actual work shift (i.e., four hours)." Furthermore, Latham and Piccolo (2012, *p.* 516) argued that, "the time length overcomes the criticism that the performance effect of a prime goal is typically assessed in minutes, if not seconds, after the manipulation of the independent variable." Hence, findings suggest that subconscious goals rather than conscious goals can be utilised to both an employer and employee's advantage as it consumes fewer cognitive resources (Kanfer & Ackerman, 1989; Shantz & Latham, 2011).

This study differed from Latham and Piccolo's (2012) as the actual intervention occurred over a two-day period, and not a four-day period, due to human error by the organisational representative. The organisational representative only included the prime on the CCRs scripts on the Thursday and Friday of week two, although the original design intention and brief to the organisational representative was that the prime should be present on the script sheets for the whole week. Moreover, the Latham and Piccolo (2012) study employed two measurement times (i.e. pre-test and post-test), whereas in this study three measurement times (i.e. T1, T2 and T3) were utilised. It was anticipated that a significant increase in the level of performance would be seen at T2 from T1 in the experimental group and not the control grou*p.* Furthermore,

it was anticipated that the levels of performance at T3 would return to baseline level (i.e. T1 level) for the experimental group as the prime was no longer present.

3.3.2 Sampling

According to Babbie and Mouton (2017, *p.* 164), "sampling is the process of selecting observations." Thus, it refers to the selection of research participants from an entire population. Due to populations often being heterogenous in nature, the aim is to select observations that adequately represent all the characteristics in the given population. According to Babbie and Mouton (2017, *p.* 212), "the cardinal rule of subject selection and experimentation concerns the comparability of experimental- and control groups". Ideally, the experimental- and control group should be as similar as possible, except for one intentional difference – the experimental group is subjected to a condition to which the control group is not (Babbie & Mouton, 2017). Moreover, Babbie and Mouton (2017, *p.* 218) state, "comparison do not have any meaning unless the groups are comparable."

The aim of this research study was to determine whether a primed goal intervention would increase job performance outcomes of CCRs in a South African outbound call center. This study utilised a randomization process as part of the design of the field experiment. That is, participants were randomly assigned to either the experimental- or control group using a random number generator (conducted with R studio software) allowing for an equal number of CCRs to be present in both groups. Randomization allows each CCR an equal opportunity to be assigned to either grou*p.* Known reasons for using this method is twofold: (i) it checks conscious and unconscious bias of the researcher, and (ii) it provides the foundation for estimates of both population parameters and error (Babbie & Mouton, 2017; Deaton & Cartwright, 2017).

With reference to the former, randomization assists in minimizing the effects of selection bias, as human choices or other external factors in the allocations of participants to the two groups were removed (e.g., the researcher could not choose to assign high performing CCRs to the experimental group). In this study, the organisational representative assisted in the randomization process by assigning each participant with a number utilising a coding procedure in order for the researcher to obtain anonymized data. Thereafter, the numbers assigned to each CCR was randomly assigned, by the researcher, to either the experimental- or control group using a random number generator (conducted with R studio software). Thus,

randomly assigning participants to either group assisted in minimizing the effects of selection bias.

A limitation in Shantz and Latham's (2011) study were experimenter bias and demand effects. "In the field experiments, Shantz was present to observe first-hand whether the experimental materials were randomly assigned to the employees, and whether the employees voice awareness of the backdrop photograph" (Latham & Piccolo, 2012, *p.* 514). Replicating the experiment conducted by Latham and Piccolo (2012), with the aim to prevent experimenter bias, as well as demand effects from influencing the results, an organisational representative assisted in the execution of this study by providing CCRs with their script sheets rather than the researcher. Thus, the researcher was not present in the call center during the execution of the experiment, merely at the end of the experiment to debrief participants. Furthermore, the organisational representative did not make any mention that this was a study and did not draw extra attention to the script sheet. Additionally, the respective call center utilises specific technology to provide CCRs with their personal script sheets (e.g. e-mail). Thus, the organisational representative was only responsible for placing the prime on the experimental group's script sheets. Replicating the experiment conducted by Latham and Piccolo (2012), a general achievement prime was used (i.e. photograph of a woman winning a race). The prime (i.e. the photograph) was "clear and vivid, approximately 4 inches (10 cm) wide in the upper-left-hand quadrant" (Latham & Piccolo, 2012, *p.* 516). Each CCR received their script sheet containing information with respect to their monthly production via e-mail. Hence, the script sheets were not standardised[9], but CCRs in the experimental group were exposed to the prime and CCRs in the control group were not. Furthermore, no rationale was provided for the presence of the photograph.

3.3.3 Data collection

Ethical clearance was obtained from the relevant ethics committee prior to the initiation of the study (section 3.3.5 provides more details). Due to the level of deception in the execution of the intervention, the study was categorized as a medium risk. The actual prime is non-invasive - it merely involved an adaptation of the call center script with the addition of a photograph in the upper left-hand-quadrant of the script sheet (participants in the experimental group was exposed to the prime, whilst the script of the control group remained unchanged). However, participants could not be invited to take part in the study. After obtaining ethical clearance,

[9] The non-standardised nature of the script sheets will be unpacked in section 3.3.6.

therefore, organisational consent was obtained from the participating organsiation for the researcher to gain access to CCRs to conduct the study. The organisational consent formulation[10] explained all the procedures and rights of the participants, appropriately formulated for the experimental- and control groups. Once ethical clearance was received, the researcher met with the organisational representative to discuss the execution of the experiment. In order to replicate the experiment conducted by Shantz and Latham (2011) and considering the limitation of experimenter bias faced by Shantz and Latham (2009), the organisational representative assisted in the execution of the study. The organisational representative provided the researcher with a de-identified list of the CCRs in the participating call center department. The researcher randomly assigned the participants into one of two groups (i.e. experimental- or control group). The list of the numbers was sent back to the organisational representative. Furthermore, this person assisted in providing the researcher with de-identified aggregated performance data (e.g. number of quotes done; number of policies sold; total rand value sold) for all the participants in the two groups, at all three data time points, namely:

i. *Time one (T1):* The daily job performance outcomes (i.e. number of quotes done; number of policies sold; total rand value sold) for the week before the intervention of each participant was captured by the organisational representative;
ii. *Time two (T2):* The daily job performance outcomes[11] (i.e. number of quotes done; number of policies sold; total rand value sold) for the week of the intervention of each participant was captured by the organisational representative; and
iii. *Time three (T3):* The daily job performance outcomes (i.e. number of quotes done; number of policies sold; total rand value sold) for the week after the intervention of each participant was captured by the organisational representative.

The performance data of each participant was, therefore the data only indicated whether the participant was in the experimental- or control group, and indicated a random number per participant so that scores over the three testing times could be matched. The organisational representative captured the de-identified, daily performance data of each CCR on a spreadsheet

[10] The organisational consent form, with both the formulations for the experimental- and control groups, are contained in Appendix C of this thesis.
[11] In line with the fact that the prime was only introduced to the experimental group on the Thursday and Friday of week two (the week of the intervention), the daily performance outcomes were only captured in all the weeks corresponding to the days for which the prime was present in week two (i.e. Thursday and Friday).

which was sent to the researcher at the end of the experiment. All data remained confidential and was only utilised for the purpose of this study.

At the end of the experiment (the end of the last workday of week three), the researcher was present to conduct a debriefing session. At the start of the debriefing session, before the experiment was explained, all participants completed the manipulation check questionnaire. The manipulation check set out to assess the participants awareness of the purpose of the experiment (Latham, & Piccolo, 2012; Shantz, & Latham, 2009, 2011). Furthermore, the manipulation check questionnaire also contained some demographic items, in order to obtain information regarding the age, gender, and tenure of participants at the respective call center. At the end of the manipulation check, participants could indicate whether they would like to enter a lucky draw to win a R500 Takealot voucher. The questionnaire was numbered[12] in the top right-hand-quadrant; thus, anonymity was maintained.

After the completion of the manipulation check questionnaire, participants were informed by the researcher about the experiment which had taken place, by detailing the research question and objectives. Thereafter, each participant was given an informed consent from to read and sign. The principle of voluntary consent for their data to be included in the write-up of the experiment was upheld, and their decision was recorded on the informed consent form.

3.3.4 Participants

The sample consisted of CCRs within an outbound South African call center. A total of $n = 14$ employees participated in the experiment (7 in the experimental group and 7 in the control group). The demographic information of the sample is summarized in Table 4.

[12] The organisational representative provided the researcher with a de-identified list of the CCRs in the participating call center. The researcher randomly assigned the participants into one of two groups (i.e. experimental- or control group) utilising R studio software. Each participant was randomly assigned a number (i.e. 1 – 14). The list of the numbers was sent back to the organisational representative. This person placed the prime on the script sheets of the experimental group and numbered the manipulation check questionnaire of each participant. Furthermore, this person was responsible for providing each participant with their numbered manipulation check questionnaire.

Table 4

Sample Demographics (Gender, Age, Tenure)

Demographics	
Gender	**Percentage**
Male	78.6
Female	21.4
Total	100

Age	**Percentage**
20 – 29	7.1
30 – 39	78.6
40 - 49	14.3
Total	100

Tenure	**Percentage**
0 – 1	42.9
1 - 2	21.4
2 -3	0.0
3 – 4	0.0
4 - 5	35.7
Total	100

3.3.5 Ethical considerations during data collection

Research has shown that many studies have been conducted in organisations where employees' behaviours are influenced without their awareness thereof (Bargh, 2020). Bargh (2020, *p.* 6) argues, "the deliberate conscious choice to engage in the goal-primed behaviour is beside the ethical point. Rather, the question should be *whether the person being primed shares the goal being induced*. Is that goal a legitimate and explicit one for the organisation, a goal that the individual would be expected to share and be committed to already, as an active member of that organisation?"

Due to the nature of the study being subconscious, participants could not be invited to take part in the study. Therefore, this was a medium-risk study, given that a level of deception was necessary in order to execute this study. According to the University of Stellenbosch (Research Ethics Committee: Social Behavioural and Education Research (REC: SBE), 2019, *p.* 53), medium risk is, "research in which potential harm is likely, but appropriate steps can be put in place to mitigate or reduce the probability of harm or risk and its impact on participants." Given

the nature of the study, participants were unaware that they were participating in a study. This was necessary as the prime works on a subconscious level, and any awareness of the experiment would have nullified the outcomes thereof. Therefore, institutional permission was obtained from the participating call center before the experiment commenced. The organisational consent form stated the nature of the study and the responsibilities of the organisational representative (see Appendix C).

According to Horn, Graham, Prozesky and Theron (2015, *p.* 12), "informed consent is a process, not merely a form. The following aspects are critical to the informed consent process:

a) Participants must be competent to give both their legal and mental consent;
b) Participants must give their consent voluntarily;
c) The researcher must fully disclose information about the research ; and
d) Participants must sufficiently understand all the information provided in order to make an informed decision."

At the end of the experiment, a debriefing session was held to inform participants about the experiment that took place as well as the research objective. During the debriefing session, participants were asked to provide informed consent in order for the researcher to utilize their performance data of the three-weeks that formed the timeframe for the experiment. At this stage, participants were able to indicate whether they wanted to withdraw from the research. They were able to do so by simply ticking the "I have been informed that I was part of an experimental study and I do not give consent that my de-identified, aggregated performance data can be used by the researcher" on the informed consent. Participants did not have to indicate their decision in any other way (e.g. publicly by a show of hands) and could simply place the numbered informed consent form back in the envelope. The consent forms only displayed the participant's number, which was assigned by the organisational representative, in the top right-hand-quadrant. The number on the form indicated to the researcher whether the participants was in the experimental- or control group, and therefore which data to withdraw from the study. Thus, participants did not have to disclose their names and/or surnames on the form. The collected data was anonymous by utilizing a coding procedure - only the organisational representative had access to the linkages between the numbers and the actual identity of the participant. The researcher was provided with the list of numbers which indicated whether participants were in the experimental- or control grou*p.* All data was treated as confidential. Furthermore, confidentiality was maintained by restricting access to the data to the researchers by storing the data on a password-protected computer, in a password-

protected file. All participants provided the researcher with consent in order to utilize their aggregate, de-identified performance data (number of quotes done; number of policies sold; total rand value sold) for the duration of the experiment.

3.3.6 Description of the intervention

The objective of the study was to determine whether job performance outcomes (number of quotes done; number of policies sold; total rand value sold) can be increased through a primed-goal intervention. The intervention is concerned with how mechanisms, such as images, can be utilised to affect an individual's behaviour subconsciously (Papies, 2016). This study aimed to replicate the experiments conducted by Shantz and Latham (2011) and Latham and Piccolo (2012) within the South African context in order to contribute to cost-effective intervention(s) with the aim of increasing job performance levels of CCRs. The call center utilised in the study was an outbound, short-term insurance call center. The main business of the participating call center is focused on current- and new customer sales. The first performance outcome utilised in this study - i.e. number of quotes conducted by a particular CCR - needs to be understood within the context of the specific business objectives of the participating call center. Outbound calls consist of "cold calling" where CCRs make calls to current- and potential customers to conduct a needs analysis. The needs analysis determines whether the client may be interested in different offerings, for example a cheaper premium, better service, or a better policy. Upon determining the clients' needs, the CCR requests an insurance quote which is system generated based on the client's risk profile. Additionally, the CCR provides information to the potential client which differentiates them from their competitors. The objective of the quote is to translate it into a sale (i.e. policy sale) which then translates into combined rand value of policies sold per CCR. Hence, CCRs make calls to follow up on quotes done with the aim to convert the quotes into policies sold. This conversion rate (i.e. the number of quotes converted to sales) was used as a second performance outcome indicator in this study. Specifically, within the South African call center environment, once a quote is accepted, the CCR is obligated by the Financial Sector Conduct Authority (FSCA) to close, or not close, a sale in English in order to comply with law and adhere to compliance regulations. This is known as the sales process (Figure 8).

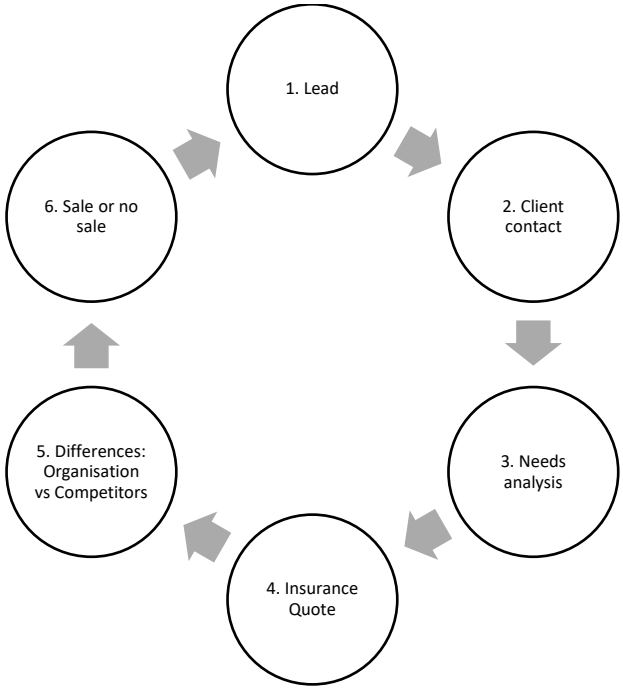

Figure 8 The Sales Process of CCRs within the Outbound, Short-term Insurance Call Center

According to the participating call center's (personal communication, n.d.) training document on the *law of telesales average and conversions*, it is stated:

> In order to make 15 or more sales a month, the telesales agent must complete more than 200 calls and convert the call to a quote at a 30% conversion rate. If this is done, the telesales agent will create approximately 60 quotes. Of the 60 quotes, the telesales agent must work with clients effectively, and close the quotes at a 30% closing conversion. By doing this, 15 or more New Business Sales will be achieved.

Therefore, in order to make 15 or more sales a month (which is the contracted performance goal), CCRs should aim to complete approximately 4–5 quotes per day or 80-100 quotes per month to achieve a conversion rate of 35%[13]. It is clear that the number of completed quotes directly influences the number of policies sold and the total rand value metric (i.e. the third performance outcome monitored throughout the experiment). Here is should be acknowledged that the three measurement performance outcomes were therefore not completely independent of each other, a limitation which could influence the results and the interpretation thereof.

In addition to the limitations noted regarding the nature of the independence of the three different performance outcome indicators utilised in this research, it should also be noted that

[13] It is important to note that targets are adjusted on a monthly basis based on the number of working days in that given month.

the timing of the experiment could have introduced some validity threats to the data. The experiment commenced (T1) in the last week of August (26 August), a start date which was out of the control of the researcher and concluded in the middle of September (13 September) (T3). In this call center performance goals are set monthly for CCRs. Hence, the fact that the T1 data was collected in the last week of the month of August, could have introduced bias into the results, given that it could be assumed that CCRs that were not on track with their contracted performance outcomes for the month of August, may have made a more concerted effort to reach these targets by the end of week 1 (i.e. T1). Conversely, if a CCR had already reached their target for the month they may have displayed a lessor effort in the last week of the month, compared to those that had not already reached their targets. If this unknown effect was present it could, however, be argued that it may have been present in both groups, given the randomisation of the participations.

Another limiting factor in the data gathering was that the actual intervention occurred only over a two-day period, and not the full five-day week period, as was the original intention of the experiment (in following Latham and Piccolo's (2012) design for a data capturing that extends beyond a few hours), due to human error by the organisational representative. That is, the organisational representative only included the prime on the CCRs script sheets on the Thursday and Friday of week two[14] (and not every day from Monday to Friday in week two). The fluctuations in time of previous experiments (e.g. Shantz & Latham, 2009; 2011; Latham & Piccolo, 2012) has indicated that the length of time utilised in this study may not have exerted a detrimental effect on the findings.

The week prior to the experiment (T1), aggregate performance data of the CCRs were captured on a spreadsheet by the organisational representative. The performance data included the number of quotes done, the number of policies sold, and the total rand value sold. In week two, the intervention was introduced over a two-day period. This entailed the inclusion of a colour photograph of the prime (Figure 1) in the upper left-hand-quadrant of the experimental group's script sheets. In the control group, no photograph appeared on the participants script sheets.

Considering the nature of the outbound, short-term insurance call center where CCRs work according to monthly targets, CCRs script sheets by all likelihood varied in terms of number of quotes done, number of policies sold, and the total rand value reached. This therefore implied

[14] This implies that the aggregated data that was provided and utilised for analysis in all weeks only included the data from Thursday and Friday in these three separate weeks.

that the script sheets provided to CCRs in this experiment were unstandardized to the extent that each CCR received an individualized script containing information regarding their monthly production of business sales, specifically indicating policies written versus policies cancelled (Figure 10). However, although the script sheets themselves are unstandardized the individualized targets (i.e. the performance goal outcomes) remained constant over the different participants. The script sheets guide CCRs in terms of their progress in achieving the set targets. It also assists the call center manager to measure daily quotes and new business, as the goal is for new business to outgrow cancellations. Thus, the number of quotes done should increase.

As indicated in the sales process (Figure 8), step one indicates call center leads. That is, the call center provides CCRs with leads (i.e. customer contact information) for the CCR to call the prospective customer. However, it is the responsibility of each CCR to maximise the opportunity to convert a lead into a sale. Hence, the number of leads influences the number of policies CCRs have. The CCRs script indicates whether a policy has been sold, cancelled or if clients are not interested. That is, the positive amounts indicate policies sold, and the negative amounts indicate that policies have either been cancelled or that the debit order has lapsed for example. In this instance, CCRs would either (i) call the individual to determine if they are interested in a policy or renewal thereof, or (ii) if they can assist the client to reinstate their policy due to the debit order which had lapsed. If the amount is zero it indicates that the individual is not interested in a policy. In the case of the former, CCRs are encouraged to save the customers information in order to contact them after a few months again. The "lapse ratio" within the call center environment is generally high as customers can cancel their policies at any time to go over to a competitor.

Therefore, it is important to note that the performance of CCRs are largely determined by the degree of customer service they provide. Consequently, the total amount at the end of the script indicates the month to date (MTD production) of the CCR in terms of sales. If the total amount is negative, the CCR will merely receive their basic salary. However, if the amount is positive, an incentive is payable on top of the CCRs basic salary (i.e. commission)[15]. Therefore, each

[15] It is important to note that the design of the field experiment had to be conducted within the parameters of the respective call center's daily operations. Therefore, in hindsight, it transpired that the monthly target could possibly be interpreted as a conscious do-your-best goal, given the fact that if a CCR did reach the monthly target or not, would still be paid their basic salary. However, upon closer inspection of the incentive scheme of the call center, it transpired that if a CCR exceeds the monthly target, an incentive is payable on top of their basic salary. This possible introduced another conscious goal in the research design over which the research did not have control.

CCR would potentially experience a different degree of work pressure at a particular point in time, based on their monthly production for that particular point in time. For instance, if a CCR has a good two days then they may not expend as much effort in the rest of the week as they are close to their set targets for that week. Or on the contrary, if a CCR did not have a good start to the week they may work harder the rest of the week in order to achieve the set targets.

Dear [redacted],

Please refer to the below information; with respect to your Monthly Production.

	Policy number:	Rand value:
[redacted]	4001941852	R 929
	4002008733	R -15,414
	4002023800	R 0
	4001960353	R -9,926
	4001951601	R -20,453
	4002029839	R 0
	4002043375	R -0
[redacted] Total		R -89,149

Figure 9 Example of a call center representative's script (experimental group) containing information regarding their monthly production

Note. The above script sheet was randomly generated for illustration purposes.

3.4 Threats to the Validity of the Study

The study utilised an experimental research design to evaluate the effect of a primed goal on the job performance of CCRs. Chen et al., (2020, *p.* 8) state, "field experiments, with random assignment to conditions, are arguably the "gold standard" in organisational psychology. This is because they yield findings with both internal and external validity that can be readily adopted by managers." However, one should not negate to identify internal- and external validity threats to such experiments (Huitt, Hummel & Kaeck, 1999). Validity issues need to be identified, minimised, and eliminated where possible in order to establish a relationship between the independent- and dependent variable. Internal validity refers to the extent to which

a study can be dismissed, or alternative explanations can be made for the results obtained (Babbie & Mouton, 2017). Consequently, these threats need to be considered as possible limitations when interpreting the findings (Babbie & Mouton, 2017).

According to Babbie and Mouton (2017, *p.* 217), "the problem of internal validity refers to the possibility that the conclusions drawn from experimental results may not accurately reflect what has gone on in the experiment itself." Hence, internal validity is concerned with how well the study was run (effectiveness), the degree to which the experiment is free from errors and that any change in the dependent variable (job performance) is due to the intervention (Huitt et al. 1999).

Babbie and Mouton (2017) expanded on the work of Campbell and Stanley (1963) and Cook and Campbell (1979) and identified twelve[16] types of internal validity threats. These include: history, maturation, testing, instrumentation, statistical regression, selection biases, experimental mortality, causal time-order, diffusion of treatments, compensation, compensatory rivalry, and demoralisation.

History refers to the events participants are exposed to during the course of the experiment that will influence the results (Babbie & Mouton, 2017). It refers to the events that occur in everyday life, such as the weather or a participant's personal life which would alter their performance. For example, during the debriefing session, one of the participants was concerned that their data may not be "good" due to challenges and difficulties experienced in their personal life during the course of the experiment. In order to overcome this threat, information with regards to confounding factors could be obtained. However, due to the small sample size it did not seem sufficient to control for such influences statistically.[17]

"Internal validity accounts for only some of the complications faced by experimenters" (Babbie & Mouton, 2017, *p.* 219). According to Campbell and Stanley (1963), there are threats relating to external validity too. External validity refers to the generalisability of findings to and across other persons and situations. Campbell and Stanley (1963) refer to external validity as an interaction that occurs between the situation and the stimulus. Bracht and Glass (1968)

[16] There are twelve types of internal validity threats, however, only one (i.e. history) was identified to possibly be applicable to this study. Validity threats such as testing, instrumentation, selection bias, and experimental mortality could not play a role as there was a level of deception in the experiment. That is, participants were not aware that they were part of the experiment. Therefore, they were not tested, and threats related to testing would therefore not be applicable (e.g. testing instrumentation). Moreover, selection bias was avoided through utilising randomisation and experimental mortality was not a validity threat as participants could not withdraw from this study due to the fact that they were unaware of their participation in the study.

elaborated on the sources of external validity which was identified by Campbell and Stanley (1963). This study identified two types of external validity threats, namely population validity and ecological validity (Bracht & Glass, 1968; Siegle, 2020; Tuckman & Harper, 2012). The latter refers to the extent to which the results of an experiment can be generalised to other settings and conditions (Bracht & Glass, 1968; Diegle, 2020; Tuckman & Harper, 2012). A type of ecological validity is the experimenter effect, which refers to the influence of the experimenter on the results obtained. Latham and Piccolo (2012) identified the limitation of experimenter bias experienced by Shantz and Latham (2011). Hence, considering previous experiments, to prevent experimenter bias from influencing the results, an organisational representative, rather than the researcher, provided the script sheets to each CCR – as would normally be done. Moreover, the CCRs sat out of direct view from one another, so there was no possibility that the control group participants would have seen that their script sheet differed from those participants in the experimental grou*p.* In addition, the organisational representative did not mention that the experiment was a study, nor was attention drawn to the experimental material (i.e., the photograph on the experimental group's script sheets). Thus, no rationale was provided for the presence of the photograph.

Furthermore, to control for participation bias, a procedure of random assignment was utilised. Tuckman and Harper (2012, *p.* 121) state that, "a researcher avoids introducing systematic biases of selection by reducing to chance the probability that the experimental in comparison to the control group includes more of one type of person than another." As described in section 3.3.3, participation bias was avoided through randomisation where the organisational representative provided the researcher with a de-identified list of CCRs in the participating call center.

CHAPTER 4: RESEARCH RESULTS

4.1 Introduction

The aim of this research study was to empirically test the effect of a primed-goal intervention on job performance of CCRs in an outbound call center. The purpose of this chapter is to focus on an integrated and holistic examination of the empirical evidence obtained from this research. Reference to, and comparison with, the relevant literature and previous research findings will also be presented.

4.2 Manipulation Check Questionnaire

The manipulation check questionnaire was developed based on the questionnaire used by Shantz and Latham (2009, 2011). The questionnaire was administered at the start of the debrief session, which occurred at the end of the last workday of the intervention, before any information about the experiment was communicated to the participants.

First, participants were asked whether they noticed anything unusual about their script sheets (i.e. the photograph) using a dichotomous response scale (yes or no). Results revealed that 93% (n = 13) of the respondents indicated that they did not notice anything unusual about their script sheets. Only one (i.e. 7%) individual indicated that they did notice something unusual. However, this individual was in the control group, therefore it could be assumed that this response was not linked to the prime photograph. Therefore, it could safely be concluded that the experimental group participants were not aware of the prime photograph. During the debriefing session, once CCRs had been informed about the experiment and the prime photograph, most indicated verbally that they generally are too busy making calls being concerned with their output to pay attention to any external stimuli.

Secondly, CCRs were asked what they thought the purpose of the script sheet was. Given that they usually receive a similar script sheet, none of the participants (n = 0) indicated that they thought the sheet had a different purpose than normal (i.e. providing information about their progress in achieving their target). This again, supported the notion that the prime photograph was not consciously obscuring the experimental group's perceptions of the script sheet.

Thirdly, CCRs were asked what they thought the purpose of the photograph in the upper-left-hand quadrant of the script sheet was. The objective of this question was to determine whether, "employees indicated any notion of a possible relationship between the presence of a

photograph and their job performance" (Latham, & Piccolo, 2012, *p.* 517). All participants in the experimental group (n = 7) who had been exposed to the photo indicated that they did not see the photograph and hence could not express a view on what the purpose of the photograph in the upper-left-hand-quadrant of the script sheet could be. Again, the indication that the photograph was either not noticed, or when it was noticed after being made aware of it by the researcher (in the debriefing session), it was not consciously linked to any particular purpose, was reassuring in the sense that it indicated that participants were not aware of the purpose of the photograph.

Fourthly, participants were asked whether anything in the script sheet was an (a) enabler to their performance, (b) a distraction to their performance, or (c) neither. In the study at hand, participants received daily emails, as they normally would, containing their Month to Date (MTD) production indicating various policy numbers, as well as policies written versus policies cancelled (Figure 10). As CCRs have weekly targets, the script sheet is instrumental in making them aware of what is expected of them to perform their tasks effectively. It should be noted that although this question was directly copied from the Shantz and Latham (2009) study (i.e. their manipulation check questionnaire), it seemed in hindsight to be a very ambiguous item in the current manipulation check questionnaire. It did not probe whether the "anything" that is being referred to in the item, in fact was the prime photograph. The results revealed that for the experimental group, 86% (n = 6) indicated option "a" (i.e. something in the script sheet was an enabler to their performance), and 14% (n = 1) indicated option "c" (i.e. nothing in the script sheet neither enabled or distracted their performance). Moreover, 29% (n = 2) of the control group indicated option "a" (i.e. something in the script sheet was an enabler to their performance), whilst 57% (n = 4) indicated option "c" (i.e. nothing in the script sheet neither enabled or distracted their performance), and one participant (n = 1) from the control group did not provide a response. Although a rather large percentage of the experimental group did indeed indicate that "something" in the script sheet was an enabler to their performance, it could safely be deduced that it was not the prime photograph, given the fact that none of the participants reported that they noticed anything unusual about their script sheet (i.e. the photograph – refer to the answers by experimental group respondents to question 1). Moreover, further substantiating this, none of the participants indicated that they thought the script sheet had a different purpose than normal (question 2).

Fifthly, participants were asked whether the photograph influenced them in any way. The results revealed that for the experimental group, 71% (n = 5) indicated that they cannot say and

29% (*n* = 2) indicated that the photograph did not influence them in any way. Furthermore, 100% (*n* = 7) of the participants in the control group indicated that they cannot say. It could be safely be deduced that the prime photograph did not influence the control group in any way as they were not exposed to the prime and none of the participants indicated anything unusual about their script sheet (question 1). The objective of the question was to determine whether there was a possible relationship between the presence of a photograph and the job performance of CCRs (Latham & Piccolo, 2012). From the results it was clear that no one in the experimental group indicated that the photograph influenced them in any way, and therefore no participant was dropped from the analysis (*n* = 14) (Shantz & Latham, 2011).

Lastly, participants were asked whether they had any further comments (an open field in the questionnaire). No one in either the experimental or the control group wrote additional comments. Therefore, due to no questions asked or comments made which suggested possible knowledge of the experiment or the purpose thereof, it was concluded that no diffusion between the study conditions took place (Shantz & Latham, 2011).

4.3 Evaluation of the Primed Goal Intervention

Based on the research question presented in chapter three, the following hypotheses was formulated in order to evaluate the primed goal intervention:

Hypothesis 1: The job performance outcome of the number of quotes done, will significantly increase as a result of participation in the primed-goal intervention.

Hypothesis 2: The job performance outcome of the number of policies sold, will significantly increase as a result of participation in the primed-goal intervention.

Hypothesis 3: The job performance outcome of the total rand value of policies sold, will significantly increase as a result of participation in the primed-goal intervention.

The daily performance data (i.e., number of quotes done, number of policies sold, total rand value) of participants were collected over a three-week period (described in section 3.3.3). It was anticipated that a significant increase from T1 to T2 would occur in the experimental grou*p*. Due to the prime only being present at T2, it was expected that the baseline level would be reached at T3 again (i.e. T1 level) in the experimental grou*p*.

Utilising a mixed model repeated measure ANOVA with post hoc test comparisons, a series of between group comparisons were obtained to investigate the difference in job performance

levels of participants in the experimental- and control group at measurement times T1, T2 and T3. Missing data was minimal (n = 1) as a participant in the control group resigned during the duration of the experiment. The ANOVA summary table (e.g. Table 5) provides both an f-value and a p-value. The former is a calculated ratio of the within-group variance. The latter is a number between zero and one and places a condition upon the null hypothesis. The p-value is compared to a critical alpha value of (.05). If the p-value is less than the alpha value ($p<.05$), then the f-value is statistically significant, indicating that the null hypothesis is rejected. Thus, a statistically significant f-value indicates that the calculated means in the current conditions differs significantly. Importantly, a statistically significant f-value only indicates whether the levels of the particular variable differs across T1, T2 and T3, and the exact means that are statistically significant will not be identified. These findings are reported in the tables indicating the fixed effect test for each job performance outcome over T1, T2 and T3. Furthermore, post hoc tests were calculated to determine the difference between, and among, particular group means. Thus, the post hoc comparisons indicate the statistically significant differences between the levels of job performance outcomes of each group at all three measurement times. Consequently, if the p-value of any two measurement times are compared and are less than alpha ($p<.05$), the specific variables being examined across those measurement times are significantly different.

4.3.1 Results: median daily quotes done

Table 5 indicates the results of the mixed model repeated measure ANOVA which aimed to determine whether there was a significant treatment by time effect for the median number of quotes done over the three measurement periods. Furthermore, Table 6 presents the post hoc tests to identify any significant score differences among group means. Finally, Figure 12 displays a graphical representation of the changes that occurred in the participant's job performance outcome, specifically the number of quotes done, at the three measurement points across the two groups.

The treatment by week effect is a vital interaction effect to examine. Hypothesis one states that the job performance outcome (i.e., number of quotes done) will significantly increase as a result of participation in the primed-goal intervention; and sets out to determine whether the differences over time are the same for both the experimental- and control grou*p*. According to hypothesis one, the experiment should pose differences across the two groups between T1 and T2, and T2 and T3. It was anticipated that the level of performance will significantly increase

from T1 to T2 and decline from T2 to T3 for participants in the experimental group (Shantz & Latham, 2011; Latham, & Piccolo, 2012). In contrast, only slight non-significant changes, or no changes at all, in the control group was expected due to external events. Therefore, it was expected that the experimental group would display a significant increase in week two compared to the control group due to the experimental group being exposed to the prime. Thereafter, it was expected that the final post-test measurement (T3) would be lower when compared to the immediate post-test measurement (T2) for the experimental group.

The results revealed (Table 6) that the interaction effect for the daily quotes were non-significant (p = .16). The interaction effect tests the hypothesis by indicating whether a trend occurs by examining if the lines are parallel to one another. Although the results were insignificant, some trends could possibly be interpreted from the lines in Figure 10.

Table 5

Fixed Effect Test for Median Daily Quotes Done Over Three Measurement Times

Effect	**Num. DF**	**Den. DF**	**F**	**p**
Treatment	1	12	0.46	0.51
Week	2	24	0.64	0.53
Treatment*Week	2	24	2.01	0.16

Note. p<.05 is significant

Table 6

Post Hoc Results for Median Daily Quotes Done

Post Hoc Tests for Median Daily Quotes Done									
Effect: Group*time									
Cell	**Treatment**	**Group**	**Time**	**{1}**	**{2}**	**{3}**	**{4}**	**{5}**	**{6}**
No.				**2.8571**	**2.3571**	**2.5714**	**1.5714**	**2.4286**	**2.7857**
1	1	Exp	T1		0.4	0.63	0.54	0.54	0.92
2	1	Exp	T2	0.4		0.72	0.26	0.92	0.54
3	1	Exp	T3	0.63	0.71		0.15	0.84	0.76
4	2	Con	T1	0.07	0.26	0.15		0.16	**0.05**
5	2	Con	T2	0.54	0.92	0.84	0.16		0.55
6	2	Con	T3	0.92	0.54	0.76	0.05	0.55	

Note. p<.05 is significant

As is evident in Figure 10, the experimental group indicated a decline from T1 to T2 in the number of quotes done, and a slight increase from T2 to T3. Given that the effect of the intervention should be reflected in the T2 level, this result is not in keeping with what was expected. Moreover, in terms of trends for the control group, this group displayed an upward trend over all three testing times, with a significant increase from T1 to T3. However, it is important to note, there was a result leaning towards statistical significance in T1 levels between the experimental- and control group. This could possibly indicate that the experimental group was closer to their monthly target compared to the control group at T1 (p = .07), thus the experimental group may not have exerted the same effort as the control group in week 2 to reach their monthly target. The sample size (n = 14) utilised was small, providing little power. If the sample size were bigger, the higher the probability would be of obtaining significant changes in the data trends (Babbie & Mouton, 2017; Schweizer & Furley, 2015). However, these results revealed no support for hypothesis one.

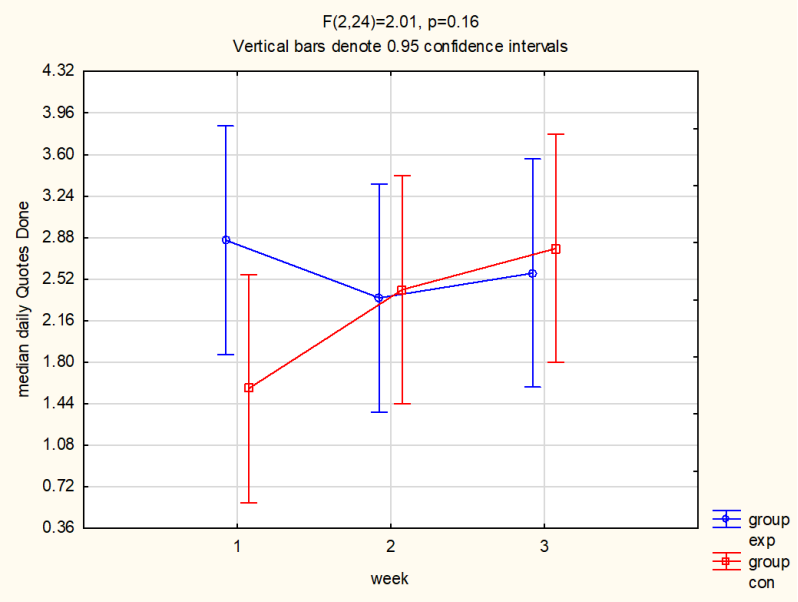

Figure 10 Median Daily Quotes Done at T1, T2 and T3

4.3.2 Results: median daily policies sold

The number of quotes done, however, is not as significant as the performance of CCRs are determined by their conversion rates. As explained in chapter three, if a customer accepts a quote and a policy is sold, the total rand value sold is influenced. Therefore, CCRs should aim to maintain a high conversion rate in order to achieve their targets. The actual performance of CCRs is concerned with the conversion rate. That is, the number of quotes done is an indication

of the possible conversion rate, but the more quotes done does not necessarily equate to a higher conversion rate. The motivation to achieve a higher conversion rate is directly influenced by the degree of client service provided.

The results revealed (Table 7 and 8) that the interaction effect for daily policies sold were non-significant (p = .92). However, it is vital to investigate the group effect, which examines the average of the two groups together. The treatment by time effect indicates an interactive, non-significant p-value (p = .57).

Table 7

Fixed Effect Test for Median Daily Policies Sold Over Three Measurement Times

Effect	Num. DF	Den. DF	F	p
Treatment	1	12	1.83	0.2
Week	2	24	0.08	0.92
Treatment*Week	2	24	1.58	0.57

Note. p<.05 is significant

Table 8

Post Hoc Results for Median Daily Policies Sold

Post Hoc Tests for Median Daily Policies Sold									
Effect: Group*time									
Cell	**Treatment**	**Group**	**Time**	**{1}**	**{2}**	**{3}**	**{4}**	**{5}**	**{6}**
No.				**0.71429**	**0.78571**	**0.85714**	**0.71429**	**0.5**	**0.42857**
1	1	Exp	T1		0.81	0.62	1	0.47	0.34
2	1	Exp	T2	0.81		0.81	0.81	0.34	0.23
3	1	Exp	T3	0.62	0.81		0.63	0.23	0.15
4	2	Con	T1	1	0.81	0.63		0.46	0.33
5	2	Con	T2	0.47	0.34	0.23	0.46		0.81
6	2	Con	T3	0.34	0.23	0.15	0.33	0.81	

Note. p<.05 is significant

Nonetheless, it is evident that the lines show some deviation from being parallel, thereby indicating a trend in the data (Figure 11). As is evident in Figure 11, the experimental group displayed an upward trend over all three testing times, with a significant increase from T1 to T3 in the number of policies sold. As the number of quotes done influence the number of

policies sold, it is evident that although the experimental group's number of quotes done declined from T1 to T2 (Figure 10), the number of policies sold increased from T1 to T2 (Figure 11) (i.e. conversion rate). It was anticipated that the trend would return to baseline (i.e. T1 levels) at T3 as the prime was no longer present, however, the trend continued to increase slightly from T2 to T3. Moreover, in terms of trends for the control group, this group displayed a downward trend over all three testing times, with a significant decrease from T1 to T3. These results were interpreted to reveal partial support for hypothesis two.

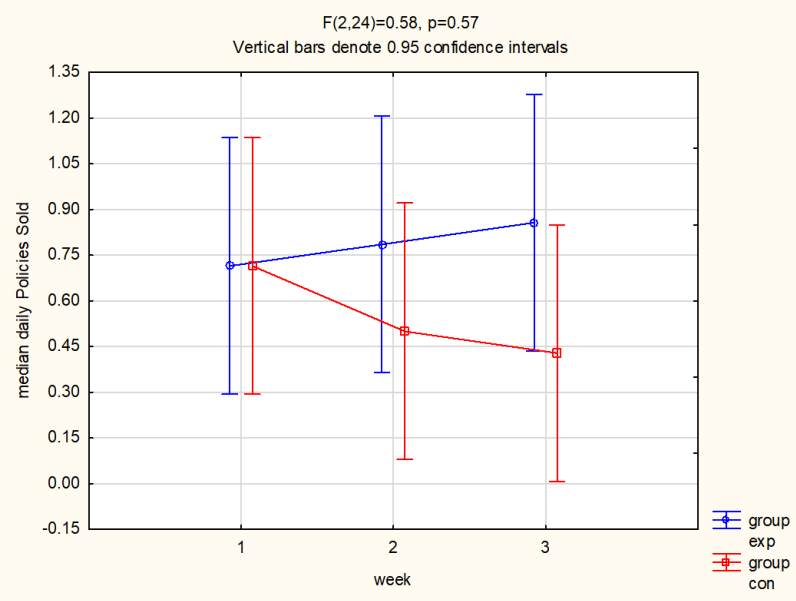

Figure 11 Median Daily Policies Sold at T1, T2 and T3

4.3.3 Results: median daily rand value sold

Lastly, the results in Table 9 and 10, revealed that the interaction effect for the daily rand value sold was again non-significant (p = .31). However, as the lines do not run parallel it is evident that some trend was present in the data (Figure 12). The experimental group displayed an upward trend over all three testing times, with a notable increase from T1 to T2 and a slight increase from T2 to T3 in the total rand value of policies sold. However, strictly speaking, it was anticipated that the trend would return to baseline (i.e. T1 levels) at T3 as the prime was no longer present. This being said, it is clear that the increase from T1 to T2 in the experimental group was more than it was from T2 to T3. Moreover, in terms of trends for the control group, this group displayed a downward trend, with a significant decrease from T1 to T2, remaining relatively consistent from T2 to T3.

Table 9

Fixed Effect Test for Median Daily Rand Value Sold Over Three Measurement Times

Effect	Num. DF	Den. DF	F	p
Treatment	1	12	3.83	0.07
Week	2	24	0.31	0.74
Treatment*Week	2	24	1.24	0.31

Note. p<.05 is significant

Table 10

Post Hoc Results for Median Daily Rand Value Sold

Post Hoc Tests for Median Daily Rand Value Sold									
Effect: Group*time									
Cell No.	**Treatment**	**Group**	**Time**	**{1} 903.57**	**{2} 1497.6**	**{3} 1648.1**	**{4} 716.57**	**{5} 494.29**	**{6} 480.43**
1	1	Exp	T1		0.22	0.13	0.74	0.47	0.45
2	1	Exp	T2	0.22		0.75	0.17	0.08	0.08
3	1	Exp	T3	0.13	0.75		0.1	**0.05**	**0.04**
4	2	Con	T1	0.74	0.17	0.1		0.64	0.62
5	2	Con	T2	0.47	0.08	**0.05**	0.64		0.98
6	2	Con	T3	0.45	0.08	**0.04**	0.62	0.98	

Note. p<.05 is significant

Considering the primed goal theory, research has shown that the effect of a prime on job performance lasts beyond a few seconds and minutes (Moskowitz & Grant, as cited in Shantz & Latham, 2011; Shantz & Latham, 2011). Latham and Piccolo's (2012) findings provides support for the latter and the automaticity theory as the effect of the prime on job performance lasted for a period of four days. With reference to the data presented in this section, it may possibly be cautiously interpreted that there seemed to be a positive effect of the prime at T2 for the experimental group, an effect which was not evident in the control group for the third performance metric, if it is assumed that the same confounding variables were present in both groups (i.e. timing of the experiment etc.). Moreover, the post-hoc results also revealed that the difference in T2 levels between the experimental- and control groups approached significant (p = .08). The results here, therefore, possibly indicated partial weak evidence of

the effect of the prime on this performance outcome. If, however, a larger sample size had been utilised, significant trends in the data may have been evident. However, the results could not be, strictly speaking, interpreted in support of hypothesis three.

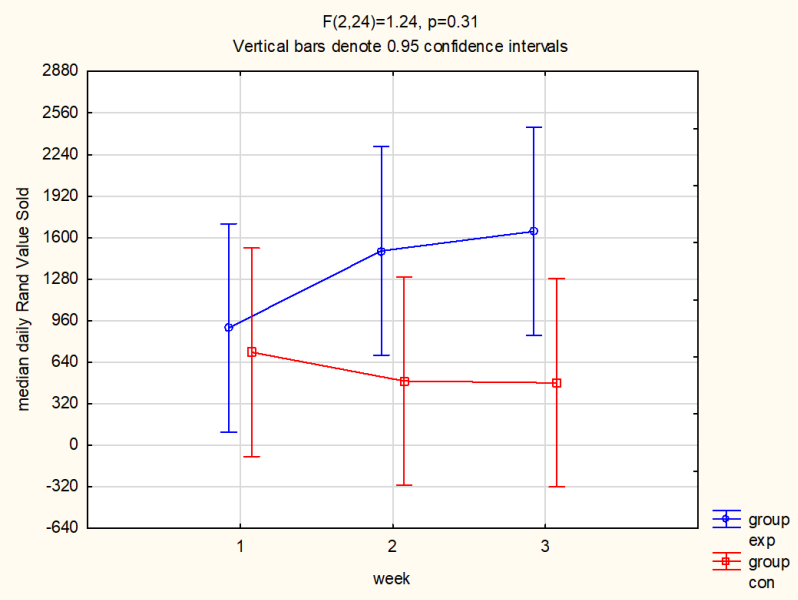

Figure 12 Median Daily Rand Value Sold at T1, T2 and T3

CHAPTER 5: DISCUSSION

5.1 Introduction

Research has shown that consciously set goals increase job performance (Locke & Latham, 1984, 1990, 2002). The Goal-Setting Theory (GST) was developed to explain and predict conscious work motivation (Locke & Latham, 1990, 2002). However, Locke and Latham (2004) recommended that not all motivation is conscious. Social psychologists started researching the subconscious (Chartrand & Bargh, 2002). Subconscious goals operate automatically, thereby affecting goals of which people are unaware. This research holds important implications for the workplace, and employee efficiency, due to the subconscious consuming less cognitive resources (Shantz & Latham, 2009, 2011).

Research has indicated that human behaviour is goal oriented (Bargh & Chartrand, 1999; Bipp et al. 2017; Dijksterhuis et al. 2007). Today, people are in 'performance mode', under constant pressure to achieve goals. Research has provided significant support for the effectiveness of goal priming to increase levels of performance (Latham & Locke, 2012; Latham et al. 2010; Locke & Latham, 2004, 2006; Miner, 2008; Latham & Piccolo, 2012; Shantz & Latham, 2009, 2011).

Considering the rapid growth of the service industry, and the challenges thereof, this study set out to replicate a combination of experiments' conducted by both Latham and Piccolo (2012) and Shantz and Latham (2011) within the South African context to contribute to the development and implementation of interventions which aim to increase job performance levels of CCRs.

5.2 Evaluation of the Primed-Goal Intervention

Bargh et al. (2001) found that the subconscious exerts a significant motivational effect on job performance which is similar to that of a conscious goal. Therefore, through further research (e.g. Shantz & Latham, 2009) it was shown that both subconscious- and conscious goals exert an additive effect on performance. To this end, Latham and Piccolo (2012, *p.* 513) argued that, "both a specific conscious goal and a primed goal, rather than one versus the other, should be set in the workplace" as the effect of the two types of goals on performance is additive (Chen

et al. 2020). These experiments, and automaticity theorists[18] (e.g. Bargh et al. 2001), indicate that, "there are no differences on performance between conscious and unconscious goals" (Chen et al. 2020; Latham et al. 2019; Latham, & Piccolo, 2012; Shantz & Latham, 2009, 2011).

This study replicated a combination of the experiments' conducted by Shantz and Latham (2011) and Latham and Piccolo (2012) by studying the effect of a subconscious prime on the job performance of CCRs. In the experimental design of this study, participants in the experimental group were exposed to a subconscious prime (i.e. photograph of a woman winning a race), while participants in the control group continued as per normal without exposure to the intervention. All participants were measured based on hard performance data (i.e. number of quotes done; number of policies sold; total rand value sold) the week prior to the intervention (T1), immediately after the intervention (T2), and the week after the intervention (T3). Considering the theory on primed goals, it was anticipated that the level of performance would significantly increase from T1 to T2 in the experimental group (as the prime was presented to the experimental group) and not the control grou*p*. Furthermore, it was expected that the level of performance would decline at T3 in the experimental group due to the prime no longer being present. Field experiments have indicated that the primed goal effect is not fragile; the time-lag between presenting the prime and measuring the effect of the primed goal on job performance endures for a four to five day workweek (Chen et al., 2020). Therefore, this experiment was designed to investigate the effect of the prime over a two-day period[19], mirroring the four-day experiment conducted by Latham and Piccolo (2012), and not just a few hours, as was the case in some of the previous research (Bargh et al. 2001; Shantz and Latham, 2009). It was argued that if evidence of the prime being beneficial was found, that the impact of this finding is advantageous to organisations as it suggests that the subconscious can be harnessed to increase efficiency due to consuming less cognitive resources, leading to goal-directed-behaviour (Chen et al. 2020; Shantz & Latham, 2011). It was argued that replication

[18] Bargh et al. (2001, *p.* 1015) argued that, "nonconsciously activated goals will cause the same attention to and processing of goal-relevant environment information, and show the same qualities of persistence over time toward the desired end state, and of overcoming obstacles in the way, as will consciously set goals."

[19] The original design intent of the experiment was that the prime would be presented throughout the whole week of week two. Due to human error, it was only presented on the last two days of week two (i.e. photograph was added onto the script sheet). Therefore, the T1, T2 and T3 data only utilised the performance outcome data for participants in both groups, specific to the Thursday and Friday pertaining to each of these three weeks – in order to ensure that whatever extraneous factors that could interfere with the results due to days of the week, would be present in all three measurements.

of these results within the South African environment would be critical to ascertain whether these findings are robust and extend to the national context.

At the end of the experiment, similar to the experiment conducted by Shantz and Latham (2009, 2011) and Latham and Piccolo (2012), CCRs awareness of the purpose of the experiment was assessed. The manipulation check questionnaire was directly copied from the Shantz and Latham study (2009) and was administered at the start of the debriefing sessions, before any information about the experiment was communicated to the participants. In brief, none of the participants indicated any awareness of the experiment. That is, that the photograph was present to increase their job performance. In brief, participants were asked whether they noticed anything unusual about their script sheets (only one control group respondent indicated "yes"); whether they wondered if the purpose of the script sheet had a different purpose than normal (none of the participants indicated that they thought the script sheet had a different purpose than normal), the purpose of the photograph in the upper-left-hand quadrant (n = 0), and whether there was anything in the script sheet that (a) enabled their performance, (b) distracted their performance, and (c) neither. The results revealed that 86%(n = 6) of the experimental group indicated option "a" (i.e. something in the script sheet was an enabler to their performance), and 14% (n = 1) indicated option "c" (i.e. nothing in the script sheet neither enabled or distracted their performance. However, given that the script sheet may have enabled CCRs, none of the participants indicated an awareness of the potential influence of the prime. Furthermore, none of the participants in the control group indicated that they were aware that some employees, assigned to the experimental group, received a script sheet that contained a photograph. The results from the manipulation check, therefore, was interpreted to suggest that, overall, the quality of the priming effects would not have been negatively influenced by respondents being aware of the prime, or the influence thereof. Moreover, as Bargh (2016) and Shantz and Latham (2011) indicated, the quality of the priming effects will be efficient as long as the person is not aware of the influence of the prime, because the awareness of the priming stimuli does not matter, but the awareness of the [potential] influence does. In this case, however, it was clear that almost no awareness of the prime, nor its purpose were present under respondents in the experimental grou*p*.

The daily performance data (i.e. number of quotes done; number of policies sold; total rand value) of participants were collected over a three-week period (described in section 3.3.4). The first performance outcome utilised in this study (i.e. number of quotes done) was expected to increase from T1 to T2 and decline from T2 to T3 for participants in the experiment group as

the prime was no longer present. Contrary, only slight non-significant changes, or no changes at all, was expected for participants in the control group as these participants were not exposed to the intervention. The results revealed that the experimental group indicated a decline from T1 to T2 in the number of quotes done, and a slight increase from T2 to T3, which is not in keeping with what was expected. Moreover, the control group indicated a significant increase from T1 to T3. However, it is important to note the difference in T1 levels between the two groups, which could possibly indicate that the experimental group was closer to their monthly target compared to the control group thus the experimental group may not have exerted the same effort as the control group at T2 (see Figure 12). Therefore, it was concluded that the results revealed no support for hypothesis one.

The number of quotes done, however, is not a significant indicator of CCRs performance, as it only reflects the first step in a sequence of steps that would eventually be indicative of the performance of a CCR. That is, the performance metric for a CCR is not the number of quotes done, it is if a customer accepts a quote it means a policy has been sold (i.e. conversion rate) (see section 4.3.2). Thus, higher number of quotes completed is a prerequisite to achieve a higher conversion rate. With respect to the conversion rate (i.e. the number of policies sold), it was anticipated that the results would indicate a significant increase from T1 to T2, followed by a downward trend from T2 to T3. As the number of quotes done directly influences the number of policies sold, it is evident that although the experimental groups number of quotes done declined from T1 to T2 (Figure 12), the conversion rate for the experimental group increased which led to an increase in the number of policies sold from T1 to T2 (Figure 13). It was anticipated that the trend would return to baseline at T3 (i.e. T1 levels) as the prime was no longer present. However, the results revealed an upward trend over all three testing times for the experimental group, with a significant increase from T1 to T3 for the number of policies sold. In terms of the control group, a downward trend over all three testing times was evident.

Due to the number of quotes done being an indication of the possible conversion rate, the more quotes done does not necessarily equate to a higher conversion rate. Hence, CCRs conversion rates are determined by the degree of client service provided (e.g. providing a cheaper premium, better service, or a better policy). The objective of the quote is therefore to translate it into a policy sale which then translates into a combined rand value of policies sold per CCR. Therefore, it is clear that the three measurement performance outcomes were not completely independent of each other and in a way would be reflected in the overall results.

The results for the third performance metric (i.e. rand value sold) revealed that the experimental group displayed an upward trend over all three testing times, with a significant increase from T1 to T2 and a slight increase from T2 to T3. It was anticipated the trend would return to baseline at T3 as the prime was no longer present. In keeping with the experimental design, the control group displayed a downward trend with a significant decline from T1 to T2, remaining relatively consistent from T2 to T3. With reference to the data presented in this section, it may possibly be cautiously interpreted that there seemed to be a positive effect of the prime at T2 for the experimental group, an effect which was not evident in the control group for the third performance metric. Moreover, the post-hoc results revealed that the difference at T2 between the experimental- and control group was significant (p =.08). With reference to the overall findings, it may possibly be cautiously interpreted that there seemed to be a slight positive effect of the primed goal intervention on the job performance levels of CCRs in the experimental group for the third performance metric. However, had the sample sized been larger, significant trends in the data may have been revealed.

Research has shown that the effect of a conscious goal was consistent with GST (i.e., a consciously set specific, difficult goal lead to increase performance, followed by a do-your-best goal and then an easy goal). It is important to note that this was a field experiment which was executed within the parameters of the respective call center's daily business operations. The respective call center operates according to a monthly target. Therefore, in hindsight it transpired that the monthly target could be interpreted as a do-your-best goal, given the fact that if a CCR exceeded the target, an incentive is payable on top of their basic salary. However, if a CCR does not achieve the target, they still receive their basic salary. This possibly introduced a conscious goal into the research design over which the researcher did not have control. In previous research, participants were randomly assigned to a goal condition (condition 1: goal prime; condition 2: no prime x do-your-best goal; condition 3: specific, easy goal; and condition 4: specific, difficult goal) (Stajkovic et al. 2006). Although the researcher did not have control over the presence of additional goals, in support of previous research, results indicated that a primed-goal only exerted a influence on performance when a difficult goal or a do-your-best goal was present (i.e., CCRs monthly target and incentive scheme) (Stajkovic et al. 2006).

5.3 Practical Implications

Based on the overall results, it is concluded that the outcome of the experiment revealed weak partial evidence of the prime effect on job performance of CCRs (i.e. for the total rand value of policies sold). However, more confidence could be placed in the results and subsequent practical implications that is discussed here if this study is to be repeated on a bigger sample, and the results obtained provide clearer, stronger evidence.

Latham et al. (2010) have argued that primed-goal intervention findings have practical significance for organisation's. Primed-goal interventions have shown to (i) increase motivational effects, (ii) increase efficiency and (iii) consume fewer cognitive resources (Shantz, & Latham 2009). First, the data revealed that the beneficial effect of a primed goal on job performance endures beyond a few seconds or minutes, as have been found in previous research (Latham & Piccolo, 2012; Shantz & Latham, 2011). Thus, the effect of the prime within the work environment is more long lasting than initially anticipated. Secondly, an achievement-related photograph appears (in previous research and to some extent in this study) to have increased job performance, hence, achievement-related photographs (i.e. photographs of the desired work that is to be done) can be placed in the organsiation (i.e. on walls, as screensavers, or on mouse pads). Considering the daily business operations of the participating call center whereby CCRs make calls to follow up on quotes done with the aim to convert the quotes into policies sold and ultimately increase the total rand value of policies sold, CCRs can therefore be primed with photographs of descriptive words to impact customers more effectively to obtain a higher conversion rate. Moreover, the participating call centre operates according to monthly performance goals. CCRs can therefore be primed to subconsciously anchor their thoughts and behaviours towards numbers (i.e. targets), hence displaying photographs of numbers in the workplace, thereby priming CCRs to utilise the numbers as reference points even though they remain unaware of the effect of the prime.

5.4 Limitations of the Study and Recommendations for Future Research

Throughout chapter four and also this chapter, several limitations have been identified which could have influenced the results. The first limitation in this study was the timing of the experiment. Shantz and Latham's (2011) findings revealed that the beneficial effect of a primed goal on job performance endures beyond a few seconds or minutes, suggesting that the subconscious can be harnessed to increase employee efficiency as it consumes fewer cognitive resources. Latham and Piccolo's (2012) primed goal effect lasted for a four-day workweek,

providing support that a primed goal has an effect on performance similar to that of a consciously set goal. Therefore, an aim of the study was to replicate the study of Latham and Piccolo (2012) with regards to this enduring effect over a work week. However, due to human error by the organisational representative the actual intervention occurred only over a two-day period and not the full five-day workweek. However, it is argued that considering the varying length of time for which data pertaining to the exposure of the prime was collected in previous experiments, the length of time in which the prime was utilised in this study may not have necessarily exerted a detrimental effect on the results obtained.

Moreover, it should also be noted that the timing of the experiment could have introduced some validity threats to the data. The experiment commenced (T1) in the last week of a month and concluded in the middle of the following month (T3). Considering that the T1 data was collected in the last week of a month (and that CCRs work according to monthly targets), bias could have been introduced into the results obtained. That is, if CCRs were not on track with their targets for the month, they may have exerted more effort in order to achieve the target by the end of T1. Contrary, if the CCRs have already achieved their targets they may have displayed a lesser effort in the last week of the month. Due to the nature of the call center operating according to monthly targets, this could have contributed to the non-significant changes observed in the data trends. Had the experiment commenced at the start of a month, different results could possibly have been obtained.

The second limitation was the sample size. The study consisted of a small sample (n = 14) which could have contributed to the non-significant changes in data trends obtained. The field experimental design used in this study did not allow for a larger sample to be utilised. Moreover, there was no other opportunity to include another call center in the experiment. Previous primed-goal interventions consisted of a larger sample size (i.e. Shantz & Latham, 2009, n = 81; Shantz & Latham, 2011, n = 20; Latham & Piccolo, 2012, n = 58). Ideally, a large sample should be used to study the possible influence of the primed-goal intervention with the possibility to see significant changes in the data trends.

Thirdly, a major limitation of the small sample size in this primed goal intervention is that the results cannot be interpreted as a representation of the South African call center population. Research is therefore needed to examine the external validity of these findings to employees from different populations.

Lastly, the photograph of the woman winning a race is a general achievement prime and has been found to arouse the implicit need for achievement. The implicit motives theory states that the, "subconscious needs affect behaviour in ways unknown to an individual. These implicit motives have been shown empirically to influence cognitive, affective, and behavioural responses outside a person's awareness" (Latham and Piccolo, 2012). Central to the implicit motive's theory is the implicit need for achievement (i.e., nAch), which is an implicit motive that can be aroused. A general achievement prime (a photograph of a woman winning a race) has been found to influence the subconscious by arousing the nAch as assessed by a projective measure – the Thematic Apperception Test (TAT) (Latham & Piccolo, 2012). Due to the subconscious consuming fewer cognitive resources, and implicit motives responding preferentially to nonverbal cues, utilising this method to assess the effect of the subconscious on behaviour is superior (Latham & Piccolo, 2012). Individuals who score high on nAch typically take personal responsibility for their performance (Chen et al. 2020). Hence, the relevance of priming goals to arouse this need in the work environment. However, the TAT was not utilised in this study as research has also shown that there is a lack of evidence that nAch mediates the primed goal-performance relationship (Chen et al. 2020).

Stajkovic et al. (2006) indicated that a primed goal only exerted an influence on performance when a difficult conscious goal or a do-your-best goal was present. In this study, CCRs operated within a target-driven environment. Thus, due to the experimental design of this study, the researcher was not able to measure whether a difficult conscious goal or a do-your-best goal was present.

Given the limitations listed above it is important to highlight that certain learning points from previous studies were incorporated into this research effort, in order to overcome limitations of previous studies. Shantz and Latham (2009, 2011) experienced experimenter bias as well as demand effects in their research. In their field experiments, Shantz was present to observe random assignment of participants and materials, and whether any participants indicated awareness of the prime. In order to prevent experimenter bias, as well as demand effects from influencing the results, the organisational representative assisted in the execution of the study by providing CCRs with their script sheets rather than the researcher. Furthermore, to overcome selection bias, CCRs were randomly assigned into either the experimental- or control group through a coding system (see section 3.3.2).

It is recommended that a replication of this study should be conducted with a larger sample. A change in sample size could greatly enhance the statistical power of the experiment and allow for greater generalisability of the results.

Secondly, process variables were not identified as possible mediators and moderators in this study. That is, "process variables can provide insight into the source of the obtained effects. For example, "if people try for specific, hard goals, then they will, given certain moderating conditions such as feedback, knowledge, and commitment, perform better than when they have vague and/or easy goals" (Locke & Latham, 2004, *p.* 400). Hence, research within the South African context is needed whereby the mediators (choice, effort, persistence, strategy) and moderators (ability, goal commitment, feedback, resources) are included.

Furthermore, it is also recommended that the timing of the experiment be taken into consideration prior to replication. Given the nature of the respective call center in this study, and the parameters of its daily business operations, as well as goals outside of the researchers control, it would be advised to commence the experiment at the start of a month in accordance with the call centers monthly performance goals. Similarly, replication of this study in any call center needs to be executed in accordance with the call centers performance goal cycle. Moreover, the period over which data was collected (i.e. two-day period) is recommended to be extended to a full five-day week in order to replicate previous experiments.

Fourthly, to the researcher's knowledge, this study was the first primed goal experiment (based on the work of Shantz and Latham (2011) and Latham and Piccolo (2012) within the South African call center industry. It is recommended that this study be conducted in a laboratory setting to test the theory and whereby the nAch is also measured to determine the effect of a primed goal on the subconscious. Moreover, research needs to be conducted to examine the external validity of these findings for employees from different populations.

Lastly, the type of prime utilised in this study was a general achievement prime which has shown to (i) increase job performance and (ii) arouse the implicit nAch (Latham & Piccolo, 2012). Both a general achievement prime and a context-specific prime has been found to arouse the implicit nAch (Latham & Piccolo, 2012). It is recommended that a context specific prime is studied within a South African call center, as the GST has argued that a prime which depicts work-related tasks may have a greater effect on job performance than a general achievement primes (Shantz & Latham, 2011). This has been shown in the experiment by Latham and

Piccolo (2012), where CCRs in the context-specific prime showed significant increases in job performance levels.

CONCLUSION

The main aim of this study was to replicate and test a primed goal intervention in a field experiment, as a replication of previous research in this domain, during the daily business operations of a South African outbound call center with the aim to increase job performance levels of CCRs. Considering the limitations, the findings did not reveal strong evidence for the primed goal tested in this research.

Previous research has provided strong evidence for the use of primed goal interventions to increase job performance levels, as presented in the literature review section. It is therefore expected that similar trends may follow with the replication of this study, and consideration of limitations, in order to increase job performance levels CCRs.

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Figure 1. An image of Sonia O'Sullivan, an Irish athlete who won a silver medal in 2000 at the Olympics, which was used to prime an achievement goal. Reprinted from "An exploratory field experiment of the effect of subconscious and conscious goals on employee performance," by A. Shantz and G.*P.* Latham, 2009, *Journal of Organisational Behaviour and Human Decision Processes, 109* (1), *p.* 15. Copyright 2020 by Elsevier. Adapted with permission. Copyright permission in Appendix D.

Figure 2. Photograph of a context-specific prime. Reprinted from "The effect of context-specific versus nonspecific subconscious goals on employee performance," by G.*P.* Latham and R.F. Piccolo ,2012, *Journal of Human Resource Management, 51* (4), *p.* 515. Copyright 2020 by John Wiley and Sons. Copyright permission in Appendix D.

Figure 3. Photograph used in the Specific, Difficult Prime Condition. Reprinted from "The Effect of Subconscious Performance Goals on Academic Performance," by T. Bipp et al.

2017, *Journal of Experimental Education, 85* (3), *p.* 474. Copyright 2020 by Taylor and Francis. Copyright permission in Appendix D.

Figure 4. Photographs Used in Pilot Study 1. Reprinted from, "The Effect of a Context-Specific Primed Goal on Goal Commitment and Team Performance," by G.*P.* Latham, J. Hu and J. Brcic, 2019, *Journal of Applied Psychology, 0* (0), *p.* 8. Copyright 2020 by John Wiley and Sons. Copyright permission in Appendix D.

Figure 5. Rodin's "The Thinker". Reprinted from "The effect of priming learning vs performance goals on complex tasks," by X. Chen and G.*P.* Latham, 2014, *Journal of Organisational Behaviour and Human Decision Processes, 125, p.* 91. Copyright 2020 by Elsevier. Copyright permission in Appendix D.

Figure 6. Task Performance across three trials. Reprinted from "The effect of priming learning vs performance goals on complex tasks," by X. Chen and G.*P.* Latham, 2014, *Journal of Organisational Behaviour and Human Decision Processes, 125, p.* 94. Copyright 2020 by Elsevier. Copyright permission in Appendix D.

Figure 7. Proportion of healthy menu choices of non-dieters, chronic dieters, and current dieters, in both the control condition and the diet reminders condition. Reprinted from "Healthy dining. Subtle diet reminders at the point of purchase increase low-calorie food choices among chronic and current dieters," by E.K. Papies and H. Veling,, 2013, *Journal of Appetite, 61*, p*p.* 4. Copyright 2020 by Elsevier. Copyright permission in Appendix D.

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Table 1. Observed Means and Standard Errors. Reprinted from "An exploratory field experiment of the effect of subconscious and conscious goals on employee performance," by A. Shantz and G.*P.* Latham, 2009, *Journal of Organisational Behaviour and Human Decision Processes, 109* (1), *p.* 9-17. Copyright 2020 by Elsevier. Adapted with permission. Copyright permission in Appendix D.

Table 2. Observed Means and Test Results. Reprinted from "The effect of context specific versus nonspecific subconscious goals on employee performance," by G.*P.* Latham and R.F. Piccolo, 2012, *Journal of Human Resource Management*, *51* (4), *p.* 518. Copyright 2020 by John Wiley and Sons. Copyright permission in Appendix D.

Table 3. Descriptive Statistics. Reprinted from "Prime and Performance: Can a CEO Motivate Employees Without their Awareness?" by A.D. Stajkovic et al. 2019, *Journal of Business*

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APPENDIX A: ETHICS APPROVAL

APPROVED WITH STIPULATIONS

REC: SBER - Initial Application Form

31 May 2019

Project number: IPSY-2019-9291

Project title: An Empirical Evaluation of a Primed-Goal Intervention on Call Center Representatives Dear Ms Lise-Mae Strydom

Your REC: SBER - Initial Application Form submitted on 8 May 2019 was reviewed by the REC: Humanities on 30 May 2019 and approved with stipulations.

Present Committee Members:

Dr. Francois Cleophas, Dr. Bronwyne Coetzee, Dr. Burt Davis, Mr Terence Erasmus, Mrs. Magdalena Fouché, Miss Clarissa Graham, Dr. Susan Hall, Prof Leonard Hansen, Ms. Lindiwemhakamuni Khoza, Prof Douglas Rawlings, Dr. Lara Skelly, Dr. Samantha Van Schalkwyk, Mr. Aden Williams, Ms. Leya Mgebisa **Ethics approval period:**

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
30 May 2019	29 May 2020

REC STIPULATIONS:

The researcher may proceed with the envisaged research provided that the following stipulations, relevant to the approval of the project are adhered to or addressed:

PARTICIPANT SELECTION AND RECRUITMENT

The recruitment process and selection of participants is straightforward and clear, however, the researcher is asked to justify why only 80 participants will be selected for the study and how the sample size was determined. [RESPONSE REQUIRED]

PROTECTION OF DATA

Please clarify why the electronic data be deleted after the publication of an article? The researcher mentions that the printed data will be kept for five years, however, it is not clear why electronic data will be handled differently. Please clarify [RESPONSE REQUIRED]

PROTECTION OF PARTICIPANTS PRIVACY AND CONFIDENTIALITY

An organisational representative will assist the researcher in de-identifying staff data before it is made available to the researcher. The organisational representative should be asked to sign a non-disclosure agreement to ensure that they will undertake to maintain the confidentiality of their colleagues' responses [RESPONSE AND ACTION REQUIRED]

INFORMED CONSENT PROCESSES AND FORMS [RESPONSE AND ACTION REQUIRED]

4.1) Please simplify the language used in the consent form, especially the section pertaining to the purpose of the study. The researcher should also provide more detail to participants about the purpose of the study.

4.2) Please provide participants with more information regarding the need for deception in this study.

4.3) Please be specific about the performance outcomes you are interested in obtaining from your participants in both consent forms.

INSTITUTIONAL AND EXTERNAL PERMISSIONS

Please provide REC with the permission letter from the participating organisation as soon as it is available. [ACTION REQUIRED] **HOW TO RESPOND:**

Some of these stipulations may require your response. Where a response is required, you must respond to the REC within **six**
(6) months of the date of this letter. Your approval would expire automatically should your response not be received by the REC within 6 months of the date of this letter.

Your response (and all changes requested) must be done directly on the electronic application form on the Infonetica system: https://applyethics.sun.ac.za/Project/Index/14425

Where revision to supporting documents is required, please ensure that you replace all outdated documents on your application form with the revised versions. Please respond to the stipulations in a separate cover letter titled "**Response to REC stipulations**" and attach the cover letter in the section **Additional Information and Documents**.

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: Humanities, the researcher must notify the REC of these changes.

Please use your SU project number (9291) on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

FOR CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD

Please note that a progress report should be submitted to the Research Ethics Committee: Humanities before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary)

Included Documents:

Document Type	File Name	Date	Version
Default	G Gorgens-Ekermans CV April 2019	02/05/2019	Final
Research Protocol/Proposal	Research_Proposal_Final_L_Strydom_(19262582)	02/05/2019	Final
Data collection tool	Manipulation Check Questionnaire	08/05/2019	Final
Request for permission	L Strydom Organisational Consent Form	08/05/2019	Final
Default	L Strydom Control Group Consent Form	08/05/2019	Final
Default	L Strydom Experimental Group Consent Form	08/05/2019	Final

If you have any questions or need further help, please contact the REC office at cgraham@sun.ac.za.

Sincerely,

Clarissa Graham

REC Coordinator: Research Ethics Committee: Human Research (Humanities)

National Health Research Ethics Committee (NHREC) registration number: REC-050411-032.

The Research Ethics Committee: Humanities complies with the SA National Health Act No.61 2003 as it pertains to health research. In addition, this committee abides by the ethical norms and principles for research established by the Declaration of Helsinki (2013) and the Department of Health Guidelines for Ethical Research: Principles Structures and Processes (2nd Ed.) 2015. *Annually a number of projects may be selected randomly for an external audit.*

Investigator Responsibilities

Protection of Human Research Participants

Some of the general responsibilities investigators have when conducting research involving human participants are listed below:

1. Conducting the Research. You are responsible for making sure that the research is conducted according to the REC approved research protocol. You are also responsible for the actions of all your co-investigators and research staff involved with this research. You must also ensure that the research is conducted within the standards of your field of research.

2.Participant Enrollment. You may not recruit or enrol participants prior to the REC approval date or after the expiration date of REC approval. All recruitment materials for any form of media must be approved by the REC prior to their use.

3.Informed Consent. You are responsible for obtaining and documenting effective informed consent using **only** the REC-approved consent documents/process, and for ensuring that no human participants are involved in research prior to obtaining their informed consent. Please give all participants copies of the signed informed consent documents. Keep the originals in your secured research files for at least five (5) years.

4.Continuing Review. The REC must review and approve all REC-approved research proposals at intervals appropriate to the degree of risk but not less than once per year. There is **no grace period.** Prior to the date on which the REC approval of the research expires, **it is your responsibility to submit the progress report in a timely fashion to ensure a lapse in REC approval does not occur.** If REC approval of your research lapses, you must stop new participant enrollment, and contact the REC office immediately.

5.Amendments and Changes. If you wish to amend or change any aspect of your research (such as research design, interventions or procedures, participant population, informed consent document, instruments, surveys or recruiting material), you must submit the amendment to the REC for review using the current

Amendment Form. You **may not initiate** any amendments or changes to your research without first obtaining written REC review and approval. The **only exception** is when it is necessary to eliminate apparent immediate hazards to participants and the REC should be immediately informed of this necessity.

6.Adverse or Unanticipated Events. Any serious adverse events, participant complaints, and all unanticipated problems that involve risks to participants or others, as well as any research-related injuries, occurring at this institution or at other performance sites must be reported to Malene Fouche within **five (5) days** of discovery of the incident. You must also report any instances of serious or continuing problems, or non-compliance with the RECs requirements for protecting human research participants. The only exception to this policy is that the death of a research participant must be reported in accordance with the Stellenbosch University Research Ethics Committee Standard Operating Procedures. All reportable events should be submitted to the REC using the Serious Adverse Event Report Form.

7.Research Record Keeping. You must keep the following research-related records, at a minimum, in a secure location for a minimum of five years: the REC approved research proposal and all amendments; all informed consent documents; recruiting materials; continuing review reports; adverse or unanticipated events; and all correspondence from the REC

8.Provision of Counselling or emergency support. When a dedicated counsellor or psychologist provides support to a participant without prior REC review and approval, to the extent permitted by law, such activities will not be recognised as research nor the data used in support of research. Such cases should be indicated in the progress report or final report.

9.Final reports. When you have completed (no further participant enrollment, interactions or interventions) or stopped work on your research, you must submit a Final Report to the REC.

10.On-Site Evaluations, Inspections, or Audits. If you are notified that your research will be reviewed or audited by the sponsor or any other external agency or any internal group, you must inform the REC immediately of the impending audit/evaluation.

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NOTICE OF APPROVAL

REC: Social, Behavioural and Education Research (SBER) - Initial Application Form

1 October 2019

Project number: 9291

Project Title: An Empirical Evaluation of a Primed-Goal Intervention on Call Center Representatives Dear Ms Lise-Mae Strydom

Your response to stipulations submitted on 19 August 2019 was reviewed and approved by the REC: Humanities.

Please note the following for your approved submission:

Ethics approval period:

Protocol approval date (Humanities)	Protocol expiration date (Humanities)
30 May 2019	29 May 2020

GENERAL COMMENTS:

Please take note of the General Investigator Responsibilities attached to this letter. You may commence with your research after complying fully with these guidelines.

If the researcher deviates in any way from the proposal approved by the REC: Humanities, the researcher must notify the REC of these changes.

Please use your SU project number (9291) on any documents or correspondence with the REC concerning your project.

Please note that the REC has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

FOR CONTINUATION OF PROJECTS AFTER REC APPROVAL PERIOD

Please note that a progress report should be submitted to the Research Ethics Committee: Humanities before the approval period has expired if a continuation of ethics approval is required. The Committee will then consider the continuation of the project for a further year (if necessary)

Included Documents:

Document Type	File Name	Date	Version
Default	G Gorgens-Ekermans CV April 2019	02/05/2019	Final
Research Protocol/Proposal	Research_Proposal_Final_L_Strydom_(19262582)	02/05/2019	Final

Data collection tool	Manipulation Check Questionnaire	08/05/2019	Final
Default	L Strydom Control Group Consent Form GG 25 06 19	07/08/2019	Final
Default	L Strydom Experimental Group Consent Form GG 25 06 19	07/08/2019	Final
Request for permission	Organisation Consent Form	16/08/2019	Final
Default	Non-Disclosure Agreement	16/08/2019	Final
Default	Organisation Consent Form	16/08/2019	Final
Default	Response to REC stipulations	16/08/2019	Final
Default	Declaration	19/08/2019	Final

If you have any questions or need further help, please contact the REC office at cgraham@sun.ac.za.

Sincerely,

Clarissa Graham

REC Coordinator: Research Ethics Committee: Human Research (Humanities)

National Health Research Ethics Committee (NHREC) registration number: REC-050411-032.

The Research Ethics Committee: Humanities complies with the SA National Health Act No.61 2003 as it pertains to health research. In addition, this committee abides by the ethical norms and principles for research established by the Declaration of Helsinki (2013) and the Department of Health Guidelines for Ethical Research: Principles Structures and Processes (2nd Ed.) 2015. *Annually a number of projects may be selected randomly for an external audit.*

Investigator Responsibilities

Protection of Human Research Participants

Some of the general responsibilities investigators have when conducting research involving human participants are listed below:

1.Conducting the Research. You are responsible for making sure that the research is conducted according to the REC approved research protocol. You are also responsible for the actions of all your co-investigators and research staff involved with this research. You must also ensure that the research is conducted within the standards of your field of research.

2.Participant Enrollment. You may not recruit or enroll participants prior to the REC approval date or after the expiration date of REC approval. All recruitment materials for any form of media must be approved by the REC prior to their use.

3.Informed Consent. You are responsible for obtaining and documenting effective informed consent using **only** the REC-approved consent documents/process, and for ensuring that no human participants are involved in research prior to obtaining their informed consent. Please give all participants copies of the signed informed consent documents. Keep the originals in your secured research files for at least five (5) years.

4.Continuing Review. The REC must review and approve all REC-approved research proposals at intervals appropriate to the degree of risk but not less than once per year. There is **no grace period.** Prior to the date on which the REC approval of the research expires, **it is your responsibility to submit the progress report in a timely fashion to ensure a lapse in REC approval does not occur.** If REC approval of your research lapses, you must stop new participant enrollment, and contact the REC office immediately.

5.Amendments and Changes. If you wish to amend or change any aspect of your research (such as research design, interventions or procedures, participant population, informed consent document, instruments, surveys or recruiting material), you must submit the amendment to the REC for review using the current

Amendment Form. You **may not initiate** any amendments or changes to your research without first obtaining written REC review and approval. The **only exception** is when it is necessary to eliminate apparent immediate hazards to participants and the REC should be immediately informed of this necessity.

6.Adverse or Unanticipated Events. Any serious adverse events, participant complaints, and all unanticipated problems that involve risks to participants or others, as well as any research related injuries, occurring at this institution or at other performance sites must be reported to Malene Fouche within **five (5) days** of discovery of the incident. You must also report any instances of serious or continuing problems, or non-compliance with the RECs requirements for protecting human research participants. The only exception to this policy is that the death of a research participant must be reported in accordance with the Stellenbosch University Research Ethics Committee Standard Operating Procedures. All reportable events should be submitted to the REC using the Serious Adverse Event Report Form.

7.Research Record Keeping. You must keep the following research related records, at a minimum, in a secure location for a minimum of five years: the REC approved research proposal and all amendments; all informed consent documents; recruiting materials; continuing review reports; adverse or unanticipated events; and all correspondence from the REC

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9.Final reports. When you have completed (no further participant enrollment, interactions or interventions) or stopped work on your research, you must submit a Final Report to the REC.

10.On-Site Evaluations, Inspections, or Audits. If you are notified that your research will be reviewed or audited by the sponsor or any other external agency or any internal group, you must inform the REC immediately of the impending audit/evaluation.

APPENDIX B: MANIPULATION CHECK QUESTIONNAIRE

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MANIPULATION CHECK QUESTIONNAIRE

PARTICIPANT NUMBER: _____

Please fill in the appropriate boxes below, and answer the questions thereafter.

AGE: ☐ GENDER: ☐ F ☐ M

HOW LONG HAVE YOU BEEN WORKING IN THIS CALL CENTER: ☐

1. What did you think was the purpose of the script sheet?

_____
_____
_____
_____

2. Did you notice anything unusual about the script sheet?

YES: ☐

NO: ☐

3. Was anything in the information packet an (a) enabler to your performance, (b) a distraction to your performance, (c) neither?

OPTION A: ☐

OPTION B: ☐

OPTION C: ☐

4. Did the photograph influence you in any way?

YES: ☐

NO: ☐

I CANNOT SAY: ☐

5. What do you think was the purpose of the photograph in the upper-left-hand quadrant of the script sheet?

_____

_____

_____

_____

6. Do you have any comments?

_____

_____

_____

_____

Please indicate whether you want to be part of the lucky draw (your identity will not be known to the researcher – the organisational representative will contact you to inform you about the outcome of the lucky draw).

YES: ☐

NO: ☐

APPENDIX C: INFORMED CONSENT

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ORGANISATIONAL CONSENT FORM

Hereby I, _____ give Lise-Mae Strydom (Master's student the University of Stellenbosch) permission to conduct a primed-goal intervention for the purpose of generating data for her master's thesis (*An Empirical Evaluation of a Primed-Goal Intervention on Call Center Representatives)* within _____.

Due to the nature of the study being subconscious, I (as the organisational representative / appropriately designated person) am aware that consent cannot be obtained from call center representatives beforehand. Therefore, this letter serves to confirm that institutional permission has been provided to conduct this research in _____.

This designated call center representative (see below) will assist in the execution of the experiment. Assistance will be given in terms of (i) providing a de-identified list of participants for random assignment purposes, and (ii) assist in providing the researcher with de-identified, aggregated performance data (e.g. amount of sales made, number of funds raised) for all the participants in all three groups, at all three data time points (i.e. aggregate of performance for the week before the intervention, aggregate of performance for the week of the intervention, and aggregate of performance for the week after the intervention).

At the end of the experiment, the researcher will be present at the call center to conduct a debriefing session with all the participating employees. The debriefing session will inform participants about the experiment that took place, the research objective, and the four-item manipulation check questionnaire will be taken down. During the debrief, participants will be asked to provide informed consent in order to utilise their performance data of the last three-weeks, as well as to consent to complete the manipulation check questionnaire. The performance data of each participant will be de-identified, that is, the data will only indicate whether the participant was in the control or experimental groups. Average scores will be utilised. An organisational representative at the call center will assist in the de-identification process. In addition, the manipulation check questionnaire will be taken down anonymously.

The purpose of the study has been explained as well as the manner in which the data generated will be used.

Signed (please print name and sign): _____

Position in the participating organisation: _____

Date: _____

Contact Details: (work) _____

(cell phone) _____

(email) _____

PARTICIPANT NUMBER: ____

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DEBRIEF INFORMATION SHEET AND INFORMED CONSENT FORM

You are asked to take part in a study conducted by Lise-Mae Strydom, from the Industrial Psychology Department at Stellenbosch University. The data obtained will contribute to the completion of a Masters of Commerce degree in Industrial Psychology (*An Empirical Evaluation of a Primed-Goal Intervention on Call Center Representatives*). You were selected as a participant in this study.

1. PURPOSE OF THE STUDY

Research has shown that subconscious goals can increase performance within a call-center environment. To establish if job performance outcomes of call center representatives can significantly be increased with a primed-goal (subconscious) intervention, the experiment conducted by Latham & Piccolo (2012) has been replicated in your organisation's call center, where you work.

2. DEBRIEF

The experiment has already taken place (over the last four days). You participated unknowingly due to the fact that this was a subconscious experiment. Your organisation gave consent to conduct the experiment in the call center where you work.

You were randomly selected to be in one of two experimental groups. This means that you were exposed to a photograph over a period of four days to determine whether it influenced your job performance levels.

3. FURTHER PROCEDURES

In order to establish whether exposure to the photograph influenced your performance, we need to access your performance data of the last three-weeks. Only the average scores will be utilised. Your performance data will be de-identified by the organisational representative. Only the organisational representative will have access to the list with the linkages between the numbers and the actual identity of the employees. The purpose of this informed consent form is for you to indicate whether you provide consent, or not, for the researcher to utilise your performance data.

4. POSSIBLE RISKS AND DISCOMFORTS

You may experience discomfort in terms of providing consent to the researcher to use your performance data. However, please take into consideration that the data will be de-identified, aggregated performance data, therefore the researcher will only be aware whether you were in the control or experimental groups. Furthermore, your performance data will only be used to examine the effect of the primed-goal intervention on job performance outcomes.

5. POSSIBLE BENEFITS TO PARTICIPANTS AND/OR TO THE SOCIETY

Primed-goal interventions has been found to (i) increase motivational effects, (ii) increase efficiency and (iii) consume fewer cognitive resources. Research has indicated that goal-priming interventions can be utilised as an effective tool in increasing job performance.

6. PAYMENT FOR PARTICIPATION

You will not be payed for being part of this research. You may enter a lucky draw to win a R500 voucher. To do so, please indicate at the end of the manipulation check questionnaire whether you would like to enter or not. If you do enter, your identity will remain de-identified. The organisational representative will provide the researcher with a de-identified list of participants who indicated that they would like to enter the lucky draw. All numbers will be placed in the lucky draw, and the winning number will be given the voucher by the organisational representative.

7. PROTECTION OF YOUR INFORMATION, CONFIDENTIALITY AND ANONYMITY

The performance data will be de-identified, and you will not be required to fill in your name on the manipulation check questionnaire as it only indicates the number assigned to you.

Any information you share with me during this study and that could possibly identify you as a participant will be protected. The data will be stored on a password protected computer in a password protected file of the primary researcher. Only the primary researcher and her supervisor will have access to the data. The hard copy questionnaire (i.e. 4 item manipulation check) will be stored in a locked office of the supervisor for a period of 5 years, after which it will be shredded. The electronic data will be deleted after the results have been published in a journal.

The results of this study will be published in the form of an academic thesis and academic peer-reviewed article in an academic journal. The results will also be presented at a national conference, and confidentiality of all data will be maintained at all times.

8. PARTICIPATION AND WITHDRAWAL

You may withdraw from the study by refraining to provide consent to utilise your performance data. To do so, please tick the "I have been informed that I was part of an experimental study and I do not provide consent that my de-identified, aggregated performance data can be used by the researcher." You will not have to indicate your decision in any other way (e.g. publicly by a show of hands) and can simply place the numbered informed consent form back into the envelope and seal it (the numbers will indicate to the researcher which data to withdraw from the study).

9. RESEARCHERS' CONTACT INFORMATION

If you have any questions or concerns about this study, please feel free to contact the researcher, Lise-Mae Strydom (19262582@sun.ac.za / 082 479 1051), and/or the supervisor, Prof Gina Görgens (ekermans@sun.ac.za / 021 808 3596) at Stellenbosch University.

10. RIGHTS OF RESEARCH PARTICIPANTS

You may withdraw your consent upon completion of the experiment, during or after the debrief session. You are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have

questions regarding your rights as a research participant, contact Ms Maléne Fouché [mfouche@sun.ac.za; 021 808 4622] at the Division for Research Development at Stellenbosch University.

DECLARATION OF CONSENT BY THE PARTICIPANT

As the participant I confirm that:

☐ I have read the above information and it is written in a language that I am comfortable with.

☐ I have had a chance to ask questions and all my questions have been answered.

☐ All issues related to privacy, and the confidentiality and use of the information I provide, have been explained.

As the participant:

☐ I have been informed that I was part of an experimental study and I hereby give consent that my de-identified, aggregated performance data can be used by the

☐ I have been informed that I was part of an experimental study and I do not give consent that my de-identified, aggregated performance data can be used by the

PARTICIPANT NUMBER: ____

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DEBRIEF INFORMATION SHEET AND INFORMED CONSENT FORM

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1. PURPOSE OF THE STUDY

Research has shown that subconscious goals can increase performance within a call-center environment. The purpose of this study is to investigate whether the job performance outcomes (number of sales made; number of quotes done) of call center representatives can be increased with a primed-goal (subconscious) intervention. This research is a replication of an experiment conducted by Latham and Piccolo (2012).

2. DEBRIEF

The experiment has already taken place (over the last four days). You participated unknowingly due to the fact that this was a subconscious experiment. If I obtained consent from you beforehand, you would have been aware of the prime and then the experiment would not have been subconscious. Thus, there was a need for deception during the duration of the experiment. Your organisation gave consent to conduct the experiment in the call center where you work.

You were randomly selected to be in a control grou*p*. This means that you were part of the experiment but were not exposed to the intervention (i.e. a photograph) on your script sheet.

3. FURTHER PROCEDURES

As you are in the control group, we need access to your performance data of the last three-weeks to establish differences between the control- and experimental groups. Specifically, the type of performance data refers to the number of sales made and number of quotes done. Only the average scores will be utilised. The performance data of each participant will be de-identified by the organisational representative. Only the organisational representative will have access to the list with the linkages between the numbers and the actual identity of the employees. The purpose of this informed consent form is for you to indicate whether you provide consent, or not, for the researcher to utilise your performance data.

4. POSSIBLE RISKS AND DISCOMFORTS

You may experience discomfort in terms of providing consent to the researcher to use your performance data. However, please take into consideration that the data will be de-identified, aggregated performance data, therefore

the researcher will only be aware whether you were in the control or experimental groups. Furthermore, your performance data will only be used to examine the effect of the primed-goal intervention on job performance outcomes.

5. POSSIBLE BENEFITS TO PARTICIPANTS AND/OR TO THE SOCIETY

Primed-goal interventions has been found to (i) increase motivational effects, (ii) increase efficiency and (iii) consume fewer cognitive resources. Research has indicated that goal-priming interventions can be utilised as an effective tool in increasing job performance.

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The results of this study will be published in the form of an academic thesis and academic peer-reviewed article in an academic journal. The results will also be presented at a national conference, and confidentiality of all data will be maintained at all times.

8. PARTICIPATION AND WITHDRAWAL

You may withdraw from the study by refraining to provide consent to utilise your performance data. To do so, please tick the "I have been informed that I was part of an experimental study and I do not provide consent that my de-identified, aggregated performance data can be used by the researcher." You will not have to indicate your decision in any other way (e.g. publicly by a show of hands) and can simply place the numbered informed consent form back into the envelope and seal it (the numbers will indicate to the researcher which data to withdraw from the study).

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☐ I have had a chance to ask questions and all my questions have been answered.

☐ All issues related to privacy, and the confidentiality and use of the information I provide, have been explained.

As the participant:

☐ I have been informed that I was part of an experimental study and I hereby give consent that my de-identified, aggregated performance data can be used by the

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APPENDIX D: COPYRIGHT

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LICENSE #: 4895840492922 **Order Date:** 08/25/2020 View printable order	Organizational Behavior and Human Decision Processes **Title:** An exploratory field experiment of the effect of subconscious and conscious goals on employee performance **Type of use:** reuse in a thesis/dissertation	**Fee:** 0.00 USD
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